# Encyclopaedia of Yoga for Common Diseases

#### Volume I

- Heart Diseases
- Diabetes
- Backaches
- Arthritis
- Asthma

#### Volume II

- Skin Diseases
- Hypertension
- Obesity
- Headache

#### Volume III

- Alopecia (Baldness)
- Constipation
- Stress

## Volume IV

- Depression
- Menopause
  - Impotency

## Volume V

- Personality Disorders
- Stomach Diseases
- ENT Diseases

### Volume VI

- Amnesia (Loss of Memory)
- HIV and AIDS

# Encyclopaedia of Yoga for Common Diseases

In 6 Vols.

Vol. II

Skin Diseases, Hypertension, Obesity and Headache

Yoga Ratna Dr. H. Kumar Kaul



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"By ourselves is evil done,
By ourselves we pain endure,
By ourselves we make us pure.
No one helps us but ourselves,
No one can and no one make
We ourselves must tread the path,
Buddhas only guide the way..."

--Dhampad

## Introduction

#### Skin Diseases

This part deals with causes and kinds of skin diseases in detail. Only those diseases have been discussed which can be prevented & cured under the system of yoga. Yoga can cure many diseases which other systems of medicine cannot, and yoga cannot cure many diseases which need surgical treatment, and those diseases about which other systems of medicine are also silent. The book will serve as a guide for the educated layman regarding skin Diseases. The technical terms, have been avoided and used only when and where necessary. Great are the powers of yoga and pranayama. Whenever in the course of these pages, my personal opinion is expressed, especially, regarding vogic treatment of skin diseases. It is based on personal observation and detailed records of over 700 cases of skin - diseases. The subject of dermatology is vast and the causes of many skin-Diseases are unknown.

In the preparation of this part liberal use has been made of the data and Illustration given in the book Rox-Burgh's "common skin diseases". For this I am especially grateful to H.K. Lewis & Co. (London). I also acknowledge my thanks and indebetedness to Excerpta medica Asia Ltd., Hong Kong. Publishers of "A -color Atlas of Dermatology" from which I have used some diagrams.

## Hypertension

This part deals with causes and remedies of hypertension. 80% of the patients coming to hospitals and clinics suffer from hypertension or high blood pressure. It is unfortunate that most of the people, including educated lot, are not aware of the adverse effects of high blood pressure. Most people are ignorant of its knowledge and fatal effects and dangers and complications.

The part deals in detail with the meaning, causes and complications caused by hypertension. Yoga therapy can prove panacea for hypertensive patients. The treatment of hypertension with voga therapy has been discussed in detail. Generally, people take to yogasanas at random to their own whim and choice. This is a risky and dangerous approach. There are specific asanas for specific diseases. A hypertensive patient should not do pseudo-dynamic or dynamic Asanas. Such asanas can prove very risky and dangerous for a hypertensive patient. Only those Asanas and pranayama exercises have been discussed which have preventive and curative value for hypertension. With increasing complexities in life style, little physical activity, sedentary life alcohol and smoking, obesity and abnormalities of potassium, fat metabolism, sugar metabolism, sensitisation to sodium (common salt) raise the blood pressure and cause many heart diseases and stroke.

### Obesity

Health awareness is of paramount importance for everybody. The problem obesity is on the Increase worldwide. It is no longer restricted to the affluent and the elite. It has spread even to the middle and lower strata of society. It poses risks of many human ailments and diseases like varied cardiovascular disorders, diabetes and stroke. Obesity ranges between mild to moderate and morbid stage. The Implication, causes and obesity related diseases have been dealt with in detail. How obesity can be reduced or overweight decreased with the help of yoga which is both science and Art have been discussed in detail according to Chinese saying, "Most

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of the diseases enter our body through mouth". In fact the diet plays significant role in overweight and obesity. Yogic diet which is balanced diet for obese person has also been discussed. Vyayam Exercises yogasans and pranayama exercises which can reduce obesity and over weight have been highlighted. To reduce obesity and over weight, it is essential to do physical exercises and Asans regularly and seriously and to adhere to restricted diet

#### Headache

Hardly there will be any individual who has not had headache, mild or severe in his or her life. In India about 85 million people spend over Rs. 10 crores a year to get relief from Headaches. Primary headaches constitute 95% and must not be taken non-seriously or jocularly as excuse for doing work. Secondary headaches are related to some organic problems. Every headache patient is a different individual and the treatment has to be tailor-made for him or her. Around one in ten Indians suffer from Migraine resulting in massive loss of manpower and restricted lives.

Headache is not a disease it is a symptom. Headaches come in many forms and in many degrees of severity. This introductory hand book is designed to give the reader some basic information about headaches and benefits from yogic treatment.

This part deals with causes, types and diseases related to Headaches in detail. Most of the headaches can cause agony, despair, frustration, sleeplessness, and decreased productivity. According to yogic treatment complete factual history of the patient dealing with the length of the problem, location of pain, time when it occurs, duration of attack, frequency aggravating circumstances, Illness and injuries, life style, sleep

pattern, stress and anxiety levels, family involvement... all these things have to be considered. The yogic treatment of headaches include yogasans, pranayama, meditation, diet and life style so as to cure reduce the frequency duration and Intensity of headaches.

# PART-VI SKIN DISEASES

# The Structure and Functions of the Skin

The skin covers the entire surface of the body. It is not, however merely a covering like the brown paper covering a parcel. It is a vital organ very important to health and life. The skin performs a number of important jobs. Among these are protecting the body against invasion by bacteria, against injury to the more sensitive tissues within the body against the rays of the sun, and against the loss of moisture. The skin also serves as an organ of perception for the nervous system. If we could see one square inch of skin under a microscope, we would find it contained about 72 feet of nerves. We also would be able to count hundreds of pain receptors, plus pressure, heat and cold receptors. Temperature regulation is still another job performed by the skin. One square inch of skin contains about 15 feet of blood vessels which dilate (grow larger) when the body needs to lose heat or constrict (become narrower) when the body must reduce the amount of heat loss through the skin. When the surrounding air is comparatively warm the skin is cooked by moisture secreted by the sweat glands. There are about 2000000 sweat glands over the surface of the body., they occur in the greatest concentration on the palms of the hands and the soles of the feet. The sweat glands are controlled by a heat

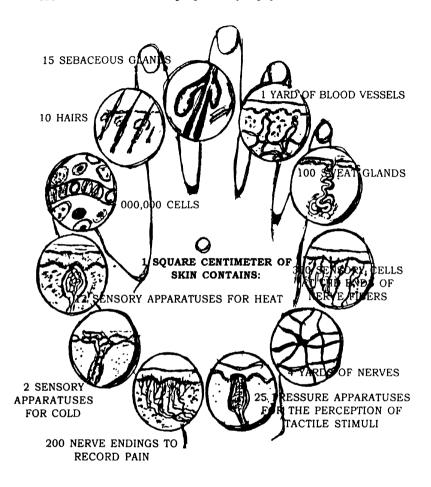


Fig. 1.1: Structures in the Skin

regulator in the brain. The moisture secreted by the sweat glands cool the body by evaporation. The surface of one's skin may look smooth but if one examines it under magnifying glass, one would see countless ridges and valleys. One will also see different patterns of skin texture on the palm of one's hand on the back of one's hand. The skin generally is soft and flexible and more

elastic in younger people. It varies in thickness from about 1/50 of an inch of the eye lids to as much as 1/3 of an inch on palms and soles. The skin consists of three layers of tissue., they are the epidermis., the dermis and the subcutaneous layer. The subcutaneous layer contains many fat lobules, blood vessels, and nerves. It links the dermis, or middle layer of the three, with tissue covering the muscles and bones. It also serves as a smooth and springy base for the skin. As persons grow older, the fatty tissue is absorbed. This causes the outer layers of the skin to form uneven folds or wrinkles. The dermis sometimes called "the true skin" is atop the subcutaneous layer. It varies in thickness in different parts of the body and contains blood vessels, nerves, nerve receptors, hair follickes, sweat glands and oil glands. At the top of dermis is a layer of tiny cone-shaped objects called papillae. There are perhaps 150 million papillae scattered over the body. They are more numerous in areas such as the fingertips where skin appears to be more sensitive. Nerve fibres and special nerve endings are found in areas where papillae with nerve endings occur most frequently. The papillary layer fits snugly against the outer layer of skin the epidermis which has ridges corresponding to those of the papillae. The ridges prevent the various skin layers from slipping. The ridges on the surface of the fingertips form whorls and other patterns, which are called finger prints. Similar ridges appear on the soles of the feet. Because it is unlikely that two persons will have exactly the same pattern of ridges. Finger prints are used by the police to Identify criminals and foot prints by hospitals to Identify babies. The possibility that two persons would have the same set of finger prints or foot prints has been estimated to be one chance in 2400000000. The top layer of the epiderms sometimes called the horny layer is made of scales that actually are dead skin cells. They gradually flake off, or soak off when wet. The horny layer is constantly being replaced by cells pushed toward the

surface as new cells are formed in the deeper layer of the epidermis. As the skin cells move toward the surface, their jelly like living substance-protoplasm- is converted into horny material. In the deeper layer where the new cells are being formed, the skin may be coloured by a pigment called melanin. Its purpose is to prevent the dangerous rays of the sun from damaging tissues. Skin colour is also influenced by a second yellow pigment and by the presence of blood vessels in the dermis layer. Since we are all familiar with the changes in the skin produced by Exposure to sunlight. The effects of sunlight vary with the time of the year, the geographical area and the hour of the day. Generally the skin shows a reddening due to enlargement of small blood vessels in the deeper layers of skin after about 5 minutes Exposure to the summer sun at midday. The reddening called erythema may not appear until several hours after Exposure to the sun. If the dose of sunlight is intense, the reddening may be followed by blistering and peeling of the outer layer of epidermal cells, if the erythema is not severe, it will fade in a few days and the skin will gradually acquire a brown colouration called suntan. The brown colour is produced by the melanin pigment which usually is present at the bottom of the epidermal layer. When skin is exposed to the sun, it is believed that melanin pigment moves toward the surface of the skin and is replaced by new melanin in the lower cell layer. One or two weeks may be required to develop a suntan by moderate daily doses of sunlight. The tan will begin to fade if occasional Exposure to sunlight is not continued. Freekles are caused by small areas of malanin pigment. They usually fade away during winter months and increase in summer. There are glands in the skin also. Two main types of glands are located in the dermis. One already mentioned is sweat gland. Under the microscope it appears as a tightly coiled tube deep in the dermis with a corkscrew like tubule that rises through the epidermis to the surface of the skin. The second type is sebaceous or oil gland. The oil glands

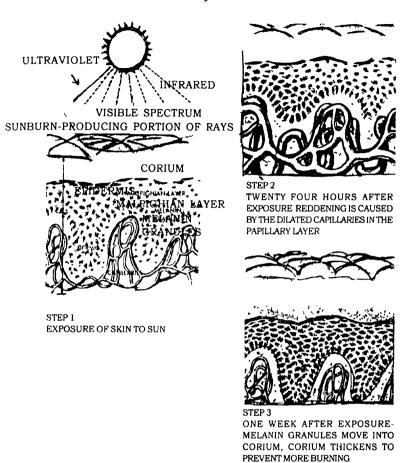


Fig. 1.2. The Effect of the Sun on Skin

usually occur in or near a hair follicle and are located in all parts of skin Except on the palms of hands in all parts of skin Except on the palms of hands and soles of the feet. They are particularly common in the skin of the face and scalp. The glands are flask-shaped and contain an oily substance that is constantly being produced by the glands as the fat globules change into oil droplets and move toward the surface of the skin. The purpose of the oil is to keep the hair and skin from

becoming dry or the ear which produce ear wax, help to protect the ear canal.

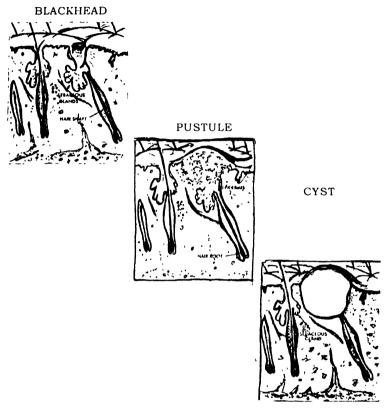


Fig. 1.3: Formation of Pimples

Several kinds of hair are part of the skin. They range in texture from the soft almost invisible hair on the forehead to the long hairs of the scalp and the short stiff hairs on the eye - lids - Like the oil glands, hair occurs on all parts of the skin Except the palms and soles. Each hair has a root which is anchored at the bottom of a microscopic shaft called a follicle. It also has a shaft which extends past of the follicle. The follicle enters the

epidermis and passes deep into the dermal layer at an angle. The follicle of long hairs may Extend into the subcutaneous layer. Oil or sebaceous, glands empty into the follicle. At the root of the hair is con-shaped papilla that is similar to the peg-like papillae that underlie the ridges of the fingers palms and soles. The shaft of the hair is covered with tiny, overlapping scales. An Inner layer of cells in the hair shaft contains pigment that gives the hair its colour, in white hair the cells contain air., curly hair appears flattened when seen in cross- section under a microscope. Straight hairs appear round or ovalshaped in cross section. Attached to each hair follicle is a small bundle of involuntary muscle fibres. Under the influence of cold or emotions, the muscle fibres contract and hair becomes erect. The action of the tiny muscles also produces "goose flesh". The hair follicles develop a down- growths of the layers of the skin. The hair that grows outward from the bottom of the follicle. Thus the body hair is a special form of skin itself. Though each hair strand looks like a single fibre but it is made up of three distinct layers. The cuticle, the cortex and the medulla.

Cuticle is the outermost layer. It provides protection from the external elements. It has tiny transparent scales which overlap one another. When these scales wear away the hair loses its natural shine and looks dull and rough. Frequent use of hair dyes and other chemicals on the hair damage the cuticle. Cortex is a middle layer. It consists of fibres twisted together. Its composition affects the colour, strength, growth and texture of the hair.

Medulla is the innermost layer. It is made up of soft keratin. It does not have any important role to play. The lack of sebum and oil causes dry hair. The skin is richly supplied with small blood vessels. As already mentioned that blood supply in the skin accounts for the reddening of the skin when we blush. Moreover, the blood supply

in the skin accounts for the reddening of sunburn and the colouration of the fingers beneath the nails. Many of the so-called birthmarks get their colouration from the tiny blood vessels concentrated in a small area of the skin. Other birthmarks are caused by patches of pigments in the skin and are similar to freekles. Moles also are pigmented patches. Humans with little or no pigment in their skin are called albinos. Their skin colour is whitish or pink. Their hair is white. Some persons have streaks or patches of white hair due to partial albinism. True Albinos cannot expose their skin to summer sunlight and their eves are unusually sensitive to intense light. Normally pigmented skins range from pinkish yellow (peach) through yellow and brown to black, depending on race. The control of the blood vessels depends on the Interaction of a variety of factors. Gentle stroking of the skin causes vasoconstriction. A greater degree of pressure, however, causes vasodilation. Where as the maximum physical stimulus, such as the lash of a whip, will produce both capillary and arteriolar dilation, together with escape of fluid from the capillary due to increased permeability of their walls.

The skin contains a rich network of lymphatics which drain into a fewer larger vessels in the hypoderm. In the case of the limbs the latter communicate as they run up to the draining gland. The main function of the lymphatics is to drain away protein substances which are too large to be reabsorbed into the venous end of the capillary circulation. Abnormality of the lymphatic system which is usually congenital but may be acquired, leads to the accumulation of a protein- rich fluid in the tissues and this explains why recurrent cellulitis occurs so commonly in lymphoedema, the increased protein content of the Interstitial fluid.

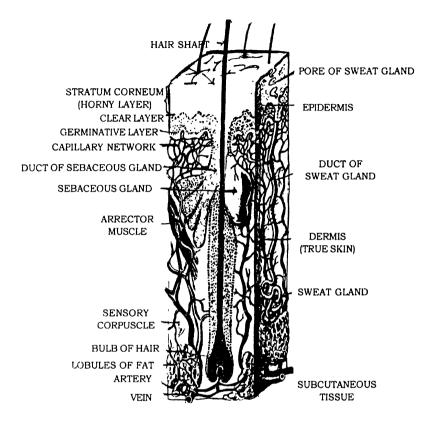


Fig. 1.4: Magnified Cross Section of the Skin

The Nerve supply of the skin consists of a motor sympathetic portion, derived from the sympathetic ganglia and a sensory spinal portion arising from the dorsal route ganglia. The sympathetic fibre innervate the blood vessels and aporine ducts and cause contraction and constriction., and also the sweat glands, where the fibres are cholinergic and cause secretion. In the skin the sensory component breaks up into innumerable very fine terminals which end either in specialised organs or as free filaments. The function of

the specialised end organs is obscure since the four sensations of which the skin is capable namely touch temperature, pain and Itch can arise in areas of skin where they are absent. All these sensations originate in a mosaic of highly sensitive spots on the skin surface.

The finger nails and toe nails like hair, are a specialised form of skin the thin layer separating the dermis and epidermis, becomes thick and hard as the fingers and toes develop. The fully develop nail then overlays a modified part of the dermis that is the bed of the nail. The base portion of the nail is covered by epidermis. The nail bed contains ridges rich in tiny blood vessels. The blood vessels give the area under the transparent nail its red colouration, Near the base or root, there is less blood circulation and the nail is not so firmly attached to the nail bed. The rate of growth of nails varies and depends upon such factors as age of the person and the season of the year. For example nails grow faster in young people during the summer months.

Both striated and smooth muscles are to be found in the skin, the striated or voluntary muscles are chiefly limited to the face and neck and arise from the subcutaneous tissue and the deep- seated muscles, and extend vertically between the glands into the corium. Expressions of the features can be traced to the action of these muscles in response to various physical and mental emotions. The Involuntary muscles of the skin are very numerous and are found in the corium occupying horizontal and oblique positions in relation to the surface. The former run either in a straight or circular direction and are present in the serotum, penis, areola, nipples of the breast and eye lids. Contraction of these muscles forces the skin into folds and changes it external appearance.

The skin is to be viewed as a complex organ with a number of functions. In fact no either organ in the body has so many functions to perform. The skin and its functions are essential to the life of the Individual. If these functions are suspended or destroyed health is impossible or life doubtful. Protection is the chief passive function of the skin. The epidermis, because of its thickness and the insensibility of the corneous layer, serves to protect the body from injurious effects of extreme temperature and from the absorption of many poisonous substances. The oily glandula secretion partially aids in this respect by preventing too great evaporation of water from within. The corium through its firmness, protect the muscles nerves and blood vessels from external agencies.

The sebaceous and sweat glands are the secretory organs of the skin. The furnish oil and moisture to make the skin soft and pliable, and help in the regulation of the body temperature and in giving off waste material. Sweat is secreted in the coil or gland proper and finds its way through a duct to the surface. Ordinarily it is rapidly evaporated from the surface in the form of vapour so that its. Presence is not perceived. If the evaporation is retarded or the secretion increased, sweat accumulates on the surface in drops. In health sweating is more pronounced in some parts of the body than in others, such as the palms, soles, face, neck and genitocrural region due either to more larger glands or to a normal increase of heat in the parts mentioned. The normal sweat is composed of about 99 percent of water and 1 percent of organic or inorganic constituents.

The skin plays very important part in the regulation of the amount of heat given out by the body. In this respect, the epidermis, especially the horny layer is important because it is a bad conductor of heat, By this essential quality it prevents a too great caloric loss from the superficial blood vessels. The vasomotor nerves helps in this function through their regulation of the cutaneous blood supply.

The Respiratory function of the skin is similar to that of lungs in that it embraces the inhalation of oxygen and the exhalation of water and carbonic acid. Its activity in this respect is insignificant as compared with that of lungs. Absorption by the skin of such substances as tar, lodin, arsenic and a few others is undoubted. Many volatile materials are easily absorbed to a varying degree. Water vapour is easily absorbed by the skin from the surrounding air, and water in contact with the surface may enter the epidermis in considerable quantity by soakage without actual absorption. Micro organisms may be absorbed by the skin.

Another important function of the skin is sensation. This provides a means of protection and discrimination. General sensation is provided for every part of the skin., the thinnest portions of the skin being most sensitive, and thickest portions the least sensitive. The tactile sense not only makes known the size, shape and other properties of bodies but it also differentiates the varieties of pain and temperature.

# The Skin Diseases

Bacterial Diseases
Staphy lococci

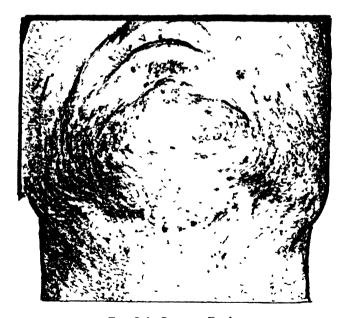


Fig. 2.1: Sycosis Barbae

Staphyloccoci Aures is the commonest cause of infective skin disease. It is present in the nostril of 30% of the normal population and in the perineum of about

25%. It causes two different types of cutaneous inflammation, the superficial type, in which the organism is found just below the horny layer of the epidermis, and the follicular type, in which the organism invades the hair follicle.

### **Impetigo**



Fig 2.2: Impetigo Contagiosa

This is the superficial variety of staphylococcial disease, Impetigo is a bullous disease, the primary lesion being a thin-roofed blister. This ruptures in an hour or two in the majority of cases but may persist for two or three days in a few., In the former, thick yellow, translucent, "stuck on crusts are formed from the



Fig 2 3 Bullous Impetigo

excluding serum, but traces of the Extending vesicle can usually be seen at the External edges of the crust. In the latter, little or no crust is formed and the vesicles enlarge upto two or more centimeters in diameter. This disease is common in children. Particularly on the face (Fig. 2.2). It is spread by touch to other Individuals and from one part of the body to another. The latter is seen especially when there is an underlying condition, such as scabies. When the original blister does not rupture, the condition is referred to as bullous impetigo and this form the disease usually takes in infants (Fig. 2.3). It is also common in adults in the tropics, due to perspiration and consequent maceration of the skin. Another rarer manifestation of the disease in infants is due to the

presence of an epidermolytic toxin which causes a peeling of the horny layer and a painful erythem a over large areas of the body. Sometimes the infection in Impetigo penetrates deeper than the epidermis and Involves the dermis. Ulceration then takes place, and the crusts are of a dirty brown colour and have puss underneath them. Such lesions are called ecthyma and because of the involvement of the dermis, take longer to heal than ordinary Impetigo and leave permanent scars.

#### Follicular Group



Fig. 2.4: Superficial Folliculitis

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When the staphylococcus remains at the mouth of the hair follicle it causes a domed pustule with very little surrounding erythema. The condition may affect hairy area, in particular the neighbourhood of some other staphylococcal infection such as boil or infected wound. Usually the organism penetrates more deeply, the condition then being called folliculitis (Sycosis). It is common on the beard region of men, but can also occur on the scalp or pubis. It usually arises as such, but may supervene on an attack of Impetigo. Owing to the inflammation Extending deeply into the hair follicle, an out wards into the surrounding corium, there is often considerable inflammation of the affected skin as a whole, and the condition may become chronic and last for years. (Fig. 2.4)

Ingrowing hairs: In certain Individuals, particularly Negroes, the hairs of the beard emerge from the skin at an acute angle, and may actually lie on the surface. The free end may then begin to grow back into the skin, producing at inflammatory papule. This condition is common at the margin of the beard and the front of the neck.

#### Sycosis nuchae (Acne Keloid)

A chronic disease of the back of the neck occurring only in men and consisting of a deep seated staphylococcal infection of the hair follicles and subcutaneous tissue, resulting in the formation of hypertrophic scar tissue. This may appear as small discrete lumps or may constitute an Irregular fibrous band extending across the back of the neck about the level of the hair margin (Fig. 2.5). The condition is of a chronic relapsing nature. Boils (Furuncles) are the result of infection of the deeper parts of the hair follicles by pyogenic staphylocci. This causes an acute inflammatory reaction ending in suppuration and

necrosis. A carbuncle is a mass of confluent boils. Boils occur most commonly in areas of coarse hair which are subjected to repeated mild friction. They are common in men than in women and occur most frequently on the back of the neck, where it is rubbed by the collar, the buttocks and around the knees and elbows. Itching dermatoses, such as eczyma and scabies are frequently complicated by boils due to inoculation of staphylococci by scratching. In certain cases boils continue to occur in widely separated areas of skin for months or years. Around every boil there is a Zone of skin. Heavily contaminated with pyogenic staphylococci, one of which will probably cause another boil., thus repeating the process until the organism is present almost all over the surface of the skin some boils become large and Extremely painful causing mild systemic symptoms.

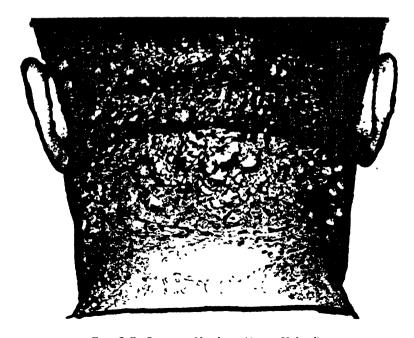


Fig. 2.5: Sycosis Nuchae (Acne Keloid)

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Hidradenitis Suppurativa :- apocrine glands sometimes become blocked usually in the axillae., but occasionally also on the areola of the breast, the umbilicus, the upper inner thighs and in the anal and genital regions. This leads to the appearance of firm cystic swellings deep in the skin which persist for a few weeks then subside. When the condition is limited to the axilla, subsequent discharge and healing usually occurs when the condition is widespread, it may persist for years. Stye (Hordoleum). This is a boil around an evelash. It is usually self-limiting when it appears it is treated as a boil. Recurrent styles boils. Then there is another disease associated with eyelashes called marginal blepharitis. An Exceedingly chronic staphylococcal infection of the eyelash follicks common in patients with dandruff. The edges of the eyelids are inflamed and tend to stick together in the morning. Small pustules may occur around some of the lashes

Erysipelas:- It is a particular type of cellulitis usually affecting the scalp or face. The lesion consists of a bright red, hot, browny oedematus plaque, slightly raised above the surface of the surrounding skin, with a very distinct margin and usually measuring several inches across. Recurrent attacks occur in several individuals, affecting the same area of skin each time. These usually affect the face or legs but occasionally occur in the arms. Sometimes they are associated with fissuring behind the ears or between the toes. After several attacks swelling of the recurrent erysipelas may be due to lymphatic deficiency in the majority of cases or both. When the condition occurs in the face, it is assumed that the mechanism is the same.

Erysipeloid: An acute infection of the skin and deeper tissues by Erysipelothrix, the organism which causes swine erysipelas. It occurs usually in those who handle meat, poultry, rabbits or fish as a result of cuts



Fig. 2.6: Erysipeloid

and scratches on the hands. The disease appears in 1 to 5 days after infection as a dull red or purplish area surrounding the scratch. The infected area is bluish red or purplish in colour slightly swollen, it aches, burns or Itches and there is often a peculiar felling of tension aggravated by heat. There are usually no constitutional symptoms but occasionally in fishermen there is severe, deep-seated pain and throbbing. In some of these cases an entire arm or leg is involved. In the ordinary case a fingure or fingures and part of one hand through infection may be transferred to the face or ear.

### <u>Tuberculosis</u>

In developed countries cutaneous tuberculosis is on the decrease. Tuberculosis of the skin may be divided into three categories: 1. Primary Tuberculosis, 2.

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Secondary tuberculosis, 3. Tuberculides. Primary tuberculosis of the skin is uncommon. It is due to exogenous implantation of the tubercle bacillus into the skin of an individual, usually a child who has not previously been infected. The lesion consists of a small persistent sore resembling at first. Impetigo or ecthma but later frequently evolving into an indolent ulcer. It is common on the leg but also occurs on the face or arm. Secondary Tuberculosis is due to re-infection of an individual who has already been infected by the tubercle bacillus. There are four types of secondary tuberculosis namely lupus vulgaris which is common. Warty lupus (tuberculosis verrucosa cutis) and tuberculous ulcer.

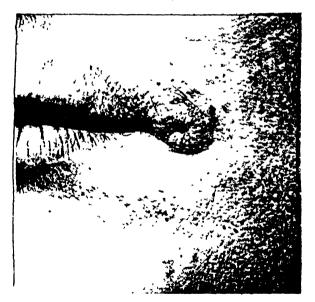


Fig. 2.7: Primary Cutaneous Tuberculosis

Lupus vulgaris:- This disease occurs in majority of cases, due to exogenous inoculation of the tubercle bacillus into the skin. In a minority of cases. It is due to dissemination of organisms from an internal focus to

the skin via the blood stream. This is always so when a number of patches of lumpus appear simultaneously, an occurrence which may follow measles or some other specific, infection of childhood. The condition usually begins between the ages of two and fifteen, the common sites being the face and the neck.

Warty Lupus (Tuberculosis Verrucosa Cutis) occurs in an older age group than lupus vulgaris and is always due to local inoculation of the tubercle bacillus, sometimes from a dead or human animal source (Postmortem Wart, butcher's wart). It usually occurs on the hand or arm and consists of one or more warty patches which tend to spread very slowly at the edges.

Scrofuloderma (Tuberculosis Colliquative) This disease is a more active form of tuberculosis of the skin. It consists of a diffuse infilteration with tubercle bacilli and cells. It begins as a bluish, red, swollen, pamless area, usually situated over broken down tuberculous glands. When the skin breaks down and ulcer is formed with irregular bluish edges. The base of the ulcer is covered with pale granulations. Tuberculous ulcers (Tuberculosiscuts-oroficialis) are shallow, Irregular, painful ulcers present in or about the mouth or anus. They occur in patients with advanced pulmonary tuber culosis and are due to inoculation of organisms coughed up from the lungs and then either expectorated or swallowed.

Tuberculides:- These are lesions of various types occurring in persons who have a tuber culous focus some where in the body, usually glandular. They are produced by the deposition of living or degenerate tubercule bacilli in the small blood vessels. This requires that patients who exhibits tuberculides should be allergic and should also have a considerable degree of resistance to tuberculosis. As it is, the lesions exhibit

various degrees of tuberculosis structure, epitheloid cells, giant cells, small round cells, and plasma cells being present.

Erythema Induratum Scrofulosorum (Bazin's disease). This disease consists of subcutaneous nodules which reach the surface, turn purple and may break down, situated on the lower half of the leg in young women. They begin as cellular infiltrations around the venules in the subcutaneous fat and gradually Extend into the skin and so to the surface. They are somewhat tender, and the early nodules can be felt before they are seen. When they become visible they are purple in colour and are usually found on the neck but also on the sides and front of lower half of the leg. Girls who exhibit these nodules are usually stout with thick ankles and some degree of cold bluish red hands and feet. The disease is generally worst in cold weather and often appears in several winter seasons.

Leprosy:- It is a chronic infections disease caused by mycobacterium leprae, affecting chiefly the skin, mucous membranes and peripheral nerves. The disease is endemic in tropical and sub-tropical countries. The disease appears in two polar types, lepromatous and tuberculoid. Lepromatous type represents infecting organism is present in large numbers in all lesions and the patient is infectious. Tuberculoid type represents maximal resistance to the disease, the infecting organism is very difficult to find in the lesions and the patient is almost or completely non-infectious.

### **FUNGUS DISEASES**

Fungal infections, also called mycoses are classified according to the Extent of tissue invasion in to superficial or deep mycoses. Superficial mycoses are restricted to the dead, keratinised structures of the skin, hair and nail. These are further sub-classified into

dermatophytoses, candidiasis and superficial infections. In the case of candidiasis, skin and mucous membrane are involved. Deep mycoses extend to living tissue.

Candida Albicans (Monilia):- This yeast like fungus is a normal inhabitant of the gastro intestinal tract. It is not normally found on the skin but under suitable conditions of Excessive moisture and maceration it can invade the horny layer and set up an inflammation. Candida infection affects the mucous membranes (Mouth and Vagina), the skin at the base of the nails, the nail plates and areas of skin where two most surfaces are in apposition.

Stomatis (Thrush):- It is creamy white, easily removable pseudo- Membranous patches found on the buccal mucosa and tongue and are caused by the candida growing in the superficial layers of the mucous membrane. The condition is common in babies or patients being treated with anti-biotics, steroids or cytotoxic drugs.

Vulvo-Vaginitis: This disease, severe irritation of the affected areas is associated with a thick creamy-white discharge. The mucous membranes are inflamed and the adjacent skin is smooth, moist with a margin of sudden white epidermis. The organism can be found in and cultured from the discharge. This type of candida infection is particularly associated with diabetes and is also common in pregnancy and in those taking an oral contraceptive.

Chronic Paronychia: When candida invades the skin around the base of the nails, it causes a glazed, red swelling with loss of the cuticle. In the beginning the disease may cause some pain but on the whole the inflammation is indolent and chronic lasting for a couple of months or years. An occasional bead of pus may exude from under the nail folds. Secondary

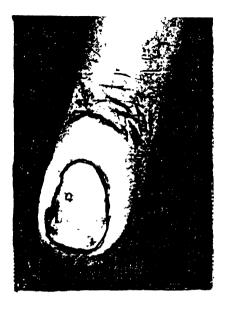


Fig. 2.8 (A): Chronic Paronychia

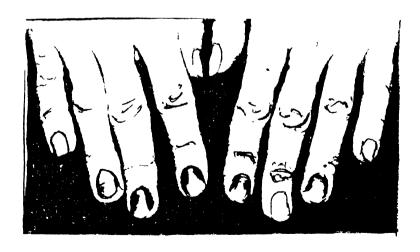


Fig. 2.8 (B): Chronic Parnychia with Involvement of Nail-Plates

deformities of the nail-plates occur, such as ridging and furrowing due to damage of the nail matrix. The organism also invades the nail-plates, causing a dark brown pigmentation at its lateral margins, chronic paronychia is an occupational disease of house wives. It is also seen in certain industries such as fruit canning in which the hands are continually wet. This wetness maceration and destruction of the cuticle and the organism and then gains admission via oral or faecal contamination. The majority of the cases begin on the middle finger of the right hand.

Ring Worm (Tinea)



Fig. 2.9: Ringworm of the Skin (Microsporum Canis Infection from a Kitten).

The important characteristics of the ring worm group of fungi is their ability to invade keratinized structures without being able to peretrate the deeper living cells. This disease is limited to hair, nails and horny layer of the epidermis. When they invade hair the mycelium is always found inside the hair with some types, however, the spores coat the outside of the hair and these are known as ectothrix. Those fungi which originate from animal sources namely horses and cattle, usually cause inflammatory lesion known as keroin when they invade man. They do not cause epidermics since they are not passed from one human being to another. Ring worm of the glabrous skin (Tinea circinata, tinea corporis). This disease is usually caught from cats and dogs or horses and cattle but sometimes may originate from the patients own feet. The lesions are more or less circular patches which spread out peripherally, healing in the centre and so forming the rings from which the disease gets its name. They are red and scaly and especially in the case of cattle infections. The lesions are usually single or few in number but may be multiple. The incubation period is probably 3 to 7 days.

Ring worm of the feet (Tinea pedis)



Fig. 2.10: Tinea Pedis. Involvement of Sole

This is the common type of fungus infection. It is spread by the transfer of infected skin. Fragments in bath rooms, changing rooms, and swimming baths. It is common in Institutions where athletic games are encouraged. The epidemiology of the condition is by no means simple. It mainly affects adolescent and young adult males who appear to be constitutionally pre disposed. Once the infection has occurred, the patient becomes a carrier. The condition consists of thick white peding macerated skin between the toes, together with redness, soreness, itching and cracking.

Trichophyton Rubrum Infections



Fig. 2 11: Trichophyton Rubrum Infection of Left Hand. Right Hand not Affected



Fig. 2 12 · Trichophyton Rubrum: Nodular Lesions of Calf

This fungus is so named because of the red colonies it forms on culture. It usually affects the feet or hands and is the common cause of ringworms of the nails. It causes maceration between the toes but does not provoke a vesicular eruption of the soles. It causes a dry scaling, thickened, confluent condition which spreads slowly towards the heel or wrist. It may take up to twenty years to reach the wrist and can remain confined to one hand for a pretty long time. In the majority of cases the nails are sooner or later affected. Occasionally the infection spreads to the lower skin and calf causing nodules on the limbs and trunk it causes indolent slowly spreading scaly, pink rings almost always secondary to infection of the hands or feet.





Fig. 2.13: Tinea Incognito

If ringworm infections are treated with topical steroids the reaction which the fungus causes in the epidermis is suppressed, the physical signs disappear but the organism persists and even spreads. When other physical signs appear a scaly erythema with out-lying pustules suggesting candidiasis are caused by steroid.

Ring worm of the nails (Tinea Unguim):- This disease is common in the great toes and is usually caused by rubrum, mentagrophytes, or floccosum. The fungs usually gets under the free edge of the nail and grows back in the nail bed, gradually attacking the nail itself. One, several or all the nails of one hand or both hands may be attacked. The affected nail is rough, opaque and friable.

# Ringworm of the scalp (Tinea Capitis):-



Fig. 2.13(A) . Ringworm of the Nails

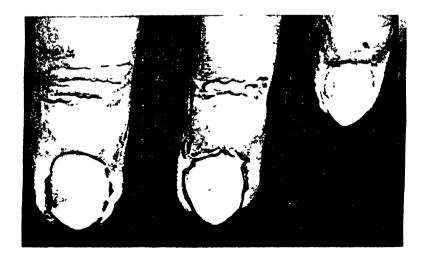


Fig. 2.13(A1): Nails Depicted in Fig. 2.13(A) After Five Months
Treatment with Griseofulvin

Ringworm of the Scalp (Tinea Capitis): - (Fig. 2.13A) This type of disease is common in children before puperty. In adults it is usually caught from a horse or cow. The first sign is a fairly well defined patch of hair loss in which the remaining hairs are broken lusterless, tend to lie at various angles to each other. The patch may be single or multiple and is usually situated where the hair is short at the sides or back of the scalp or on the parting. The type of ringworm caught from horses or cattle kerion usually occurs the affected are being red, hot, tumid, boggy and studded with pustules. When untreated, the cases tend to last until puberty. The inflammatory reaction of keroin is so severe that all the infected hair are shed and recovery takes place in a few weeks and it may sometimes cause permanent baldness.

Trichophytides: There are distant eruptions due to local ringworm infections and are caused either by toxins or allergen absorbed from the original eruptions. The common and most important is a vesicular eruption of the palmar aspect of the fingers and hands evoked by severe tinea pedis. In this, the fungus is only present in the original eruption. Occasionally the eruption may be more widespread, involving the limbs and trunk and consisting of small papules, vesicles or patches.

# VIRUS DISEASES

Several skin diseases whose causation is not known may prove to be due to filterable viruses. At present are the vesicular diseases, herpes simplex, herpes zoster, variola, vaccina, varicella, tumours, warts are known with varying degrees of certainty to be so produced.

Herpes Simplex:-This disease occurs in two forms, a primary infection in individuals who have not been previously infected and a secondary who have suffered the primary infection in the past and who experience reaction of virus.

Primary Herpes Simplex: In this disease the portal of entry is via a mucous membrane. In majority of the cases it produces no clinical manifestations, the fact that it ever occurred depending upon the finding of antibody in the serum. Sometimes if the primary infection occurs in the second decade or later, the disease may be much more severe causing an acute conjunctivitis, stomatitis or vulvo-vaginitis which last for about a week and which is accompanied by marked regional adenitis and high fever. A less common type of primary infection is the herpetic whitlow which may affect one or several fingers.

Eczema herpeticum and eczema Vaccinatum (Kaposi's vari-celli-form eruption): Sometimes the infection manifests itself as a generalised eruption consisting of the characteristic umbilicated vesico-pustules. This condition is seen almost exclusively in individuals usually infant and young children suffering from atopic eczema, insevere cases there is a high fever and grave systemic symptoms and the malady may be fatal. A similar condition can be caused by the vaccinia virus in atopic individuals (eczema vaccinatum) and is the reason why vaccination should never be performed in atopic subjects unless they have been in contact with a case of small-pox.

Recurrent herpes simplex:-This condition is thought to result from the virus reemerging into the epidermis where it replicates following a latent period during which it probably some recurrent attacks fail to reach a blistering stage but typically a patient will experience prodromal tingling discomfort and later minute vesicles, closely set on the red patch. The contents of these soon turn yellow and dry up into little yellow crusts. In a couple of weeks, the patch soon disappears. A marked feature of herpes is its tendency to recur on or near the same situation. Herpes lesions about the mouth, nose

and chin in children often become infected causing impetigo. In the majority of cases the attacks of Herpes are infrequent. Bright sunlight may precipitate factors and in severe cases repeated attacks may appear every few weeks. Then there is genital Herpes which is usually caused by a strain of virus which differs from the ordinary strain and is called herpes simplex virus. It is transmitted sexually on the penis, the early lesion consists of a few vesicles on the glands coronal ulcers or prepuce. The roofs of the vesicles quickly get macerated and removed, leaving a group of small circular ulcers which may be confluent. On the vulva herpes may occur anywhere but usually it occurs on the inner surfaces.

Herpes Zoster, Zoster, Singles:-



Fig. 2.13(B): Herpes Zoster

This disease is an outbreak of vesicles preceded by pain and accompanied by enlargement of lymph glands. Zoster is caused by the same virus as chicken pox. Most people contract the infection in the form of chicken pox in childhood although it may be so mild as to go unattended. Therefore the virus remains latent in the dorsal root or cramial nerve ganglion. Immunity against reinfection is the rule but sooner or later the virus becomes reactivated causing an attack of zoster. In this disease the patient complains of pain for a few days in the distribution of a sensory nerve on one side, usually

one of the spinal nerves in the throacic region. After a couple of days there may be slight fever. Then a red area appears on the 3rd or fourth day and the pain eases off. Lymphatic glands in the anxilla or neck are usually enlarged and often tender. After a week they dry up into scabs and in another week fall off leaving small scars. In supra-orbital zoster if there are vesicles on the side of the nose or eyelids. It may indicate that the ciliary gsnglion is involved and watch must be kept on the eye for conjunctivitis and corneal ulceration. Sometimes aberrant vesicles are seen scattered about the trunk or limbs. An attack of zoster usually confers life long immunity.

Hand, Foot and Mouth Disease:- (Fig- 14, 15, 16, 17)

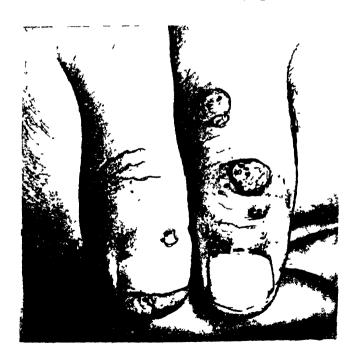


Fig. 2.14: Common Warts

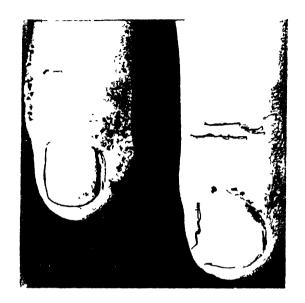


Fig. 2.15: Periungual Warts

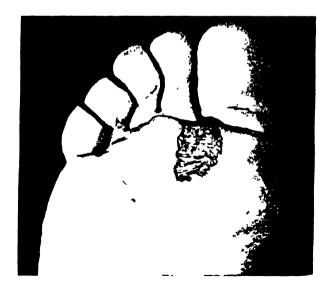


Fig. 2.16: Plantar Warts



Fig. 2.17: Herpes Zoster

Such minor skin disease are caused by Coxsackie a virus and is common in children. The first symptom, is usually a sore mouth and on minute examination vesicles with vivid red are Olae are seen scattered irregularly on the buccal mucosa, palate, gums or tongue. The vesicles soon rupture and form superficial ulcers. There is sometimes a mild fever. The skin lesion consists of oval, grey vesicles with a thin red areola. They are found on both the dorsal and ventral surfaces of the flingers, hands, toes and feet. The condition is mild and these ulcers disappear within a couple of days.

Warts (Verrucae) (Fig- 19, 20):-

All warts are caused by the human papilloma virus (HPV) each variety of wart is associated with a single virus type.



Fig. 2.18: Herpes Zoster Affecting the First Division of the Fifth Cranial Nerve (Herpes Ophthalmicus). Note Lesions on Side of Nose (Involvement of Ciliary Ganglion).

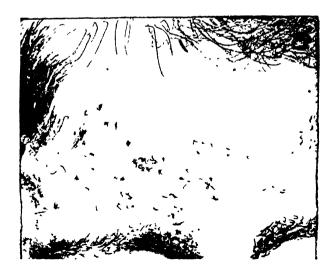


Fig. 2.19: Plane Warts

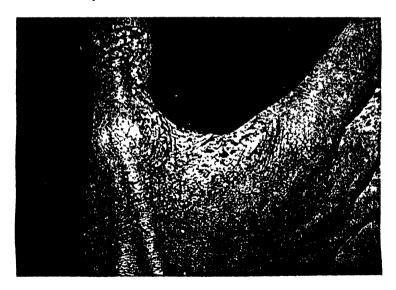
#### Plane of Juvenile warts

This type of warts which occur in great numbers on the hands and faces of children and sometimes of adults are the simplest type of warts. They are small, smooth and are the colour of the normal skin or sometimes brownish. They may be so numerous as to resemble an inflammatory eruption. The common wart is a large firm papule with a rough surface and occurs most frequently on the fingers or knees. The plantar wart is similar to the common wart but as it occurs on the ball of the foot. or on the heel, it is being constantly pressed into the skin by the weight of the body and so does not project much above the surface. It does project deeply into the corium and pressing on the nerve ending there is acutely tender. It may also occur as multiple, small, superficial lesions, this is called the mozaic wart and it is not painful. Planter warts are common in schools where the infection is picked up by the bare feet off bathroom and gymnasium floors. Sometimes wart is confused for corn. A corn consists purely of a thickening of the horny layer and contains no blood vessels. Then there is another kind of wart called filiform wart which is a single structure like a stout thread projecting form the skin. It is usually of skin colour with a horny tip. These warts are usually seen on the neck in middle aged women but sometimes they occur on the nostrils or on the eyelids. Another type of warts called pigitate warts are most often found on the scalp but small ones are sometimes seen on the beard area in men. They are like a cluster of filiform warts diverging from a narrow base. They are often caught by the comb or razor. Then there are Gential and qual warts which occur in large numbers especially on the vulva. In colour they are pink and they are very vascular.

Parasitic Diseases (Plate 1-1, 2, 3, 4) (Plate 1-1, 10, 11, 12, 13, 14, 15, 16) Scabies and pediculosis are common parasitic infestations less commonly. One finds



Fig. 2.20 : Scabies—Typical Excoriated Lesions in Interdigital Spaces and on the Dorsum of the Hand



2.21 : Scabies—Exconated Papular Lesions between the Thumb and the Index Finger

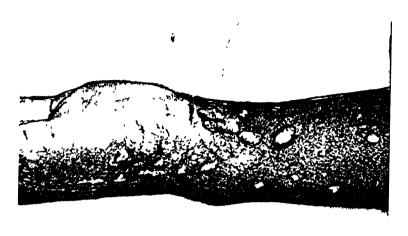


Fig. 2.22 : Scabies—Eczematons Changes in Seabies

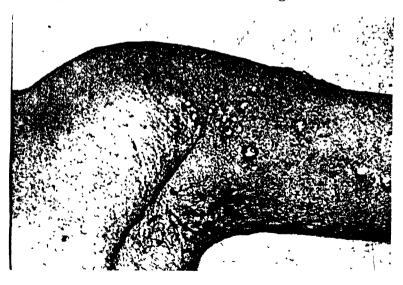


Fig. 2.23: Scabies—Papulovesicular and Pustular Lesions of Seabies with Eczematous Changes. Note the Burrows on the Arms



Fig. 2.24 :Impetigo Bullous—This Bullous form of Impetigo Contagiosa started as small Superficial Vesicles which continued to Spread and Rupture, leaving behind Typical, Superficial, Erythematous, Eroded Areas. Lesions are Evolving

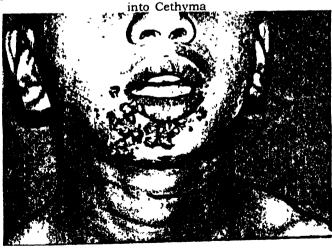


Fig. 2.25: Impetigo Contagiosa—Typical Honeycomb Crusted Lesions on the Chin, a characteristic feature of Impetigo



Fig. 2.26 :Impetigo Contagiosa—Typical "Stuck On" Honeycomb appearance due to Superficial Haemorrhagic Crusts



Fig. 2.27 :Extensive Impetigo—Multiple Haemorrhagic, Crusted and Vesiculopustular Lesions all over the Face, with Superficial Ulceration on the Chin. Such Extensive Lesions of Impetigo may be associated with Constitutional Symptoms



Fig. 2.28: Scabies in a Child—Impetiginised and Eczematised Scabies on the Face and Medial Side of the Wrist



Fig. 2.29: Scabies-Eczematisation—Scabies is Common on the Palms and Soles of Small Children but is Seen here as Eczematised Lesions on the Legs. Soles, Thighs and Genitals Show Changes of Scabies

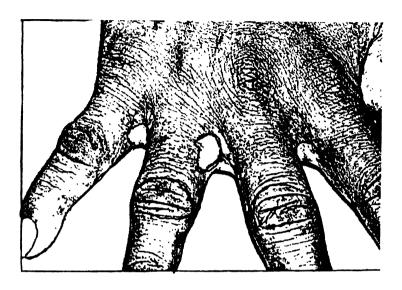


Fig. 2.30: Infected Scabies—Burrows of Scabies becoming Impetiginised, hence, the Blister with Pus Formation



Fig. 2.31: Infected Scabies—Pustules and Crusts in the Webs of the Middle, Ring and Little Fingers. Lesions are Infected, hence, the Swelling. Dissemination of such Infection in Children may Lead to Septicacmia



Fig. 2.32: Infected Scabies—Note Gross Oedema of the Hand. Infection is Spreading, as evidenced by Oedema and Pustules on the Forearm. If Streptococci are involved in such an Infection, it may lead to Nephritis after approximately Three Weeks

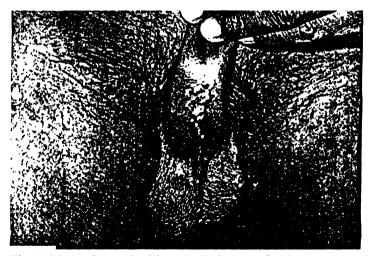


Fig. 2.33: Nodular Scabies—Nodules on the Serotum and Penis in Scabies. These are due to inclusion of Part of the Sarcoptes in the Dermis



Fig. 2.34: Norwegian Scabies—Scaly, Erusted Lesions typical of Norwegian Seabies have begun to involve the Scalp. Increasing numbers of Norwegian Seabies should be expected with the Advent of AIDS and other Immunodeficiency Processes

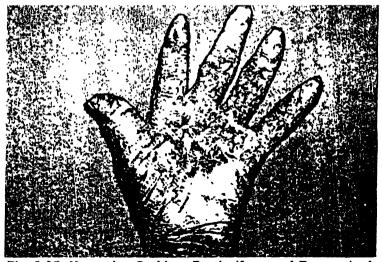


Fig. 2.35: Norwegian Scabies—Psoriasiform and Eczematised appearance of the Skin in Norwegian Seabies. This suggests Immuno Suppression, Loss of Sensation or Mental Retardation

guinea-worm infestation, filariasis, larva migrans and cutaneous leshmaniasis, all of which are restricted to certain parts of the tropics. Scabies is caused by the gravid female of sarcoptes scabeiei enterung the epidermis and forming a burrow, which then becomes its house. The disease is most common in children and spreads by contact to the rest of the family. Itching, the usual symptom, becomes eczematised and secondarily infected. Secondary infection is much more common in children. The disease presents with lesions in the webs of the fingers, on the front of the wrist and on genitals, gluteal region, and breast of women, palms, soles and scalp are involved only in neonates, children and elderly people. Treatment of scabies should involve the entire family or at least those who are infected pediculosis or lousines is due to unhygienic ways of living and comprises infestation of scalp, body and pubic area where infestation is by crab louse which is often sexually transmitted disease. On the scalp, the louse moves between the hair, sucks blood and produces intense itching which leads to vigorous scratching. The body louse is morphologically similar to the head louse. It lives in the seams of clothing and sucks blood from the skin at night. The eggs and lice should be looked for in the seams of clothing not on the skin. The public louse lives in the pubic region, axillae and hair of infected itching in the affected areas. The public louse lays its eggs on abdominal pubic and axillary hair and sometimes on the eye lashes. Dracunculosis or guineaworm infestation is associated with drinking water from wells contain eyclops. Filariasis or Elephantiasis is caused by wnchereria bancropti, the larvae of which are transmitted by mosquitoes and develop in human lymphaties, producing lymphatic obstruction. Initial attacks of fever and rigors are followed by progressive lymphatic oedema especially of the legs leading to gross deformities.

Bees, Wasps, Hornets: The sting of these insects is always painful and may be dangerous. Danger may arise on account of the situation of the sting in the tongue or fauces, the resulting swelling obstructing respiration., from the patient being allergic to the venom. The sting of these insects is complicated but its working is entirely reflex so that a severe sting may be got from the abdomen of a bee which has been for many hours separated from its thorax. The poison consists of a mixture of formic acid and an organic base. The poison of the bee is acid while that off the wasp is neutral or alkaline.

### Sexually Transmitted Diseases

Sexually transmitted disease (STD) are a group of communicable diseases that are transmitted by sexual contact. Transmission of these diseases may also occur by other routes such as kissing, the use of infected needles. Conventionally STD include syphilis, gonorrhoea, chaneroid, denovanosis, and Aids. The practice of prostitution was mainly responsible for the spread of the STD in the past. But today with the erosion of moral values, loosening of family ties and casual sex have become a way of life.

# Causes of Skin Diseases

Causes of skin diseases can be attributed to both Internal and External origin. The predisposing causes (Internal) include inherited conditions of the system or acquired conditions which may be due to the presence of general or local internal disease Eruptions arising under such conditions may be incidental but they are usually essential and are called symptomatic skin Diseases. Exciting or direct causes are often of External origin and include those factors which act directly on the skin itself.

### Predisposing Influences.

1. Climate and seasons are some of the causative factors. It is presumed that they alone are not so productive of disease as their combination with habits of living and other personal factors. The endemic feature of many diseases is well known. Warm weather favours outbreaks of urticaria, miliaria and intertrigo and cold weather aggravates psoriasis, seborrhea, lupus vulgaris. Diseases like chilblains and many forms of dermatitis originate in cold weather. Sudden changes in temperature may cause greater activity in many Existing eruptions. Such diseases behaving in this manner are called recurrer.

#### 2. Home and Habitation

The kind of homes people live in, their size, design and quality have a great deal to do with the amount of Illness caused by communicable disease. No house can be built that will entirely prevent contagious diseases among the occupants but it goes without saying that well built homes give better protection than do jerry built huts with no essential required facilities. Cleanliness in houses demands water in plenty at the right places. Plenty of water means cleaner people in a cleaner home unhygienic factors can contribute in disease—giving influences. Thus air of houses, rooms polluted with sewer gas and other noxious emanations can cause pemphigus (in infants), furuncles, strumous and catarrhal diseases and associated with uncleanliness of the person, diminish the resistance of the skin to the invasion of animal and vegetable parasites.

### 3. Heredity

Disease such as syphilis and Itchthyosis are transmissible but in many persons there exists a tissue weakness or predisposition to disease conditions such as psoriasis, alopecia prematurA, lepra, xanthoma and eczema Hereditary traits and tendencies may show a marked preference for one sex of a family through succeeding generations. Racial tendencies have been noted in the various nationalities, constituting the different races.

### 4. Age

It is well known that certain dermatoses belong typically to the different periods of life. In youth and post adolescent period, more acute inflammations and hypertrophies are likely to occur. Intertrigo Impetigo and ring worm of the scalp are common in childhood, but acne, seborrhea and psoriasis seldom develop before puberty. Tinea versicolor, rosacea are diseases of adult life.

#### 5. <u>Sex</u>

Sex shows little influence until the period of puberty. Thereafter the differences in the habits of the two sexes has a modifying effect only less pronounced than the physiological differences of the mature male and female. These later differences reach the point of Exclusion in only two diseases: Sycosis which does not occur in the female and Paget's disease of the nipple which does not occur in the male. Menstruation often aggravates Existing eruptions by its regular disturbance of the circulatory or nervous systems. If Excessive, it may lower nutrition and create a predisposition to cutaneous disorders. Such diseases as eczema, uriticaria, acne are frequently worse before or after the menses, while simple erythema herpes simplex and purpura may appear only at the menstrual period. Lactation like the menstrual flow may tend to aggravate chronic eruptions. Diseases like psoriasis, eczema which may have subsided during pregnancy are liable to return during lacatation. The menopanse usually occurs at an age when even moderate arrangements of circulation or Innervation are likely to cause an aggravation of Existing eruptions or contribute to the development of new ones.

## 6. Diatheses

Diatheses implies an underlying condition usually of some duration, affording a tendency to definite forms of disease. Diatheses may be active or latent, acquired or inherited. The tuber culous, scrofulous can encourage the development of any form of tuberculosis cutis. The rheumatic gouty, uric acid may lead to psoriasis, eczema and purpura. Chronic or severe forms of malaria may produce melanotic staining of the skin, herpes and urticaria. The gasto intestinal Tract is the

seat of many digestive disturbances which develop ferments and toxins. These processes constitute auto intoxication and bear a direct causal relation to diseases like acne, rosacea, eczema, and psoriasis. The relation of food in quality and quantity to disorders of the digestive symptom and the resulting skin eruptions is very significant Infant foods, containing undigested starch are frequent sources of cutaneous eruptions in young children. At any age, the importance of food cannot be underestimated. Chronic constipation can contribute to the development of chloasma and chromidrosis. Chloasmatic patches appear frequently in pregnancy. Senile pigmented patches are sometimes due to degeneration of the skin. Nervous shocks such as great fright, grief, agony transmit to the tropic nerve impressions powerful enough to cause bleaching of the hair, baldness, eczema and psoriasis. The injection of certain drugs may produce elementary eruptions of the skin

# 7. Personal Hygiene

The mentally healthy and well adjusted person can abide extremes of cleanliness and tidiness for short periods and can put up with disorder and disarray when necessary. Filth and uncleanness are no doubt exciting factors in dermatological practice but when compared to skin diseases arising from occupation over indulgences of all sorts, mental life, they are not noted as required. So it happens that defects in personal hygiene are not limited to the poor but involve the cleanly and well-nourished. The lack of soap and water bathing is noticeable in the causation of acrie, seborrhea and keratosis pilaris. The indiscriminate use of water when combined with impure soaps and vigorous scrubbing may aggravate any skin eruption. Clothing may also assume an Exciting role. Too many or too thick clothes can cause malaria in infants particularly during

hot weather, soiled under clothing may cause eczema of the body. Too light or too coarse garments or the presence of irritating dyes in clothing may Excite erythema, dermatitis and pruritus.

### 8. Chemical and Mechanical Factors

Generally some people are allergic to some chemicals and dyes. Chemically substances when applied, Externally may Excite irritation, inflammation or destroy the superficial and deep layers of the skin. Such substances are numerous in number. They include many plants which contain an active principle deleterious to the skin such as arnica, ivy, sumac, mustard, ethereal oils and regins. The various antiseptic preparations when freely used such as Iodoform, mercuric chlorid phenol and creolin and also substances used in the manufacturing of dyes as the anilin preparations, strong acids as nitric, muriatic, sulphuric, acetic can be harmful for the skin. Chemical Irritants may not be directly responsible for skin diseases but through their influence of innervation may cause disturbances at distant points or may lesson the resistance of the skin. Mechanically acting agents are often chemical in their action at the same time. They are incidental to nearly every one and may act to produce changes in the epidermis or deeper portions of the skin. The effects of occupation cannot be ruled out plain water may cause a surface irritation if used for long periods, Fissured eczema is common in plasterers, masons and washermen. Those who handle animal substances as herdsmen, tanners and butchers are likely to catch anthrax and ecthyma. Occupations necessitating Exposure to hear as with cooks, blacksmiths and firemen are favorable to attacks of erythema, eczema and dermatitis.

#### 9. Parasites

A large number of skin diseases can be classified as parasitic. Parasites may be of animal or vegetable. Diseases such as pediculosis, scabies, ringworm and favus can be caused by the grosser animal and vegetable parasites. A large group of skin diseases including Impetigo, contagiosa, leprosy, tuberculosis cutis are caused by lower, micro-organism.

### Skin Care

Regular cleansing of the skin is desirable for both health and cosmetic reasons. Cleansing removes sebum (oily secretion), sweat, dead skin, dirt, cosmetic and some bacteria. This process can be carried out quickly and effectively with water and a mild soap or detergent. Many factors influence the degree of dryness of the skin: Geographical location, time of year, relative humidity in living and working conditions and Excessive use of soap and detergents. It is believed that only skin is influenced by heredity, emotions, activity and climate. Sunlight is a primary factor in aging. One should avoid over exposure to the sun's rays. Facial lines are more noticeable when the skin is dry thus such areas should be lubricated. The cause of brittle nails is not known. Contrary to popular legend, brittle nails do not result from a deficiency in protein, vitamins calcium or any other known nutrient. Brittleness also increases with age. The nails are very plastic when moist, brittle when dehydrated.

Dark circles under the eyes usually have no relation to physical; disease. The condition is dependent on several anatomic factors and may reflect a family trait. The skin of the eye lids is thin and contains little fatty tissue. The blood which passes through the large veins close to the surface shows through to the surface of the skin, When one is fatigued and pale, the colour is accentuated. Darkening of the circles may also be accentuated during mensuration and the later part of pregnancy.

Syphilis:- It is a disease of antiquity. It is caused by Traponema pallidum. The Initial lesion arises at the site of inoculation a few days or a few weeks after such an event. It comprises a single painless ulcer with associated painless regional lymphadenopathy. The primary syphilitic sore may heal quickly. The secondary syphilis is often the partial break down of this healed lesion. Secondary syphilis comprises a generalised rash and lymphadenopathy. This is followed by a latent phase which may progress either to a teritary stage or continue as persistent latent stage. The first two years comprise an early phase, during which the disease is infectious. Syphilis recurring after two years constitutes a late phase during which the infectivity goes down, but for upto 20 years or more, the disease may present with Involvement of any organ of the body.

Gonorrhoea: It is a disease caused by Neisseria gonorrhoeae and involves the urethra and vagina of females, and any other mucous membrane, depending upon the various modes of sexual contact. It has severe consequences when female children are affected. The symptomatology is purulent discharge. It may also affect the newborn particularly the conjunctive, during the passage through the infected birth canal.

Chaneroid:- It is caused by Haemophilus ducveyi and a variety of other organisms, hence it is regarded as a chanceroidal syndrome. It affects the unhygienic more often than others and has been described as the disease of socially and Economically backward. It manifests as painful soft ulcers on the genitals involving the draining lymph glands.

Granuloma: It is caused by a bacillus. The organism was discovered by Donovan in India in 1905 and was initially called Donovania granulomatis. The condition is common in certain regions of the world. Greater

facilities for travel have led to its dissemination. It is characterised by granulomatous ulcers that spread by contignity.

#### Dermatitis:-



Fig. 3.1: Napkin Dermatitis with Secondary Spread



Fig. 3.1(A): The Eczematous Eruption: Lichenified Stage

The word dermatitis is used almost exclusively to denote inflammation of the skin originating from contact with some External irritant. In the great majority of cases when some external agent inflames the skin a series of highly characteristic changes develop in the epidermis to which the term eczema is applied. Occasionally however some other type of reaction results. It would therefore be correct to speak of eczematous and noneczematous dermitatis. The earliest sign of eczema is erythema, occasioned by dilatation of the dermal blood vessels and this persists until healing takes place. The next stage consists of invasion of the epidermis by lymphocytes and an increase in its cellular and Intercellular fluid. The later collects into minute vesicles which of superficial present as such on the surface of the skin. The vesicles soon rupture leading to exudation of serum on to the surface, which after sometime dries up and forms crusts.

Eczematous Dermattis (Fig-3.2) :-



Fig. 3.3: The Eczematous Eruption: Scaly Stage

The cause of this disease may be a solid liquid or gas, a simple element such as nickel or a complex element such as epoxy resin and it is usual to qualify the word dermatitis by a term giving some aetiological information, for instance lipstick dermatitis, Industrial dermatitis, dermatitis medicamentosa.



Fig. 3.4: Chronic Solar Dermatitis

Dermatoses may be caused due to Irritation from chemicals. (Fig. 3.4) Some substances such as strong alkalies and acids are very potent skin Irritants, thus causing Irritation or a chemical burn. Many other substances including soaps and detergents are mild Irritants and cause dermatoses on prolonged contact with the skin. Primary Irritation dermatitis is not produced by antibody anti-gen reaction, but by a direct irritant effect on the epidermal cells. Individual susceptibility varies from person to person. For instance one common type of primary Irritant dermatitis results from the effect of household washing but another woman will develop the condition shortly after her first baby is

born and another woman may have seven children and a job as washerwoman never develop it. The primary irritant dermatitis is more difficult to cure and more prone to persist than allergic dermatitis one of the most important characteristics of eczematous dermatitis is its tendency to persist after the original cause has been removed. The involved skin is peculiarly prone to further Irritation. Dermatitic skin is more prone to acquire allergic sensitivities.

Napkin Dermatitis: This occurs in babies on the area covered by the napkin, buttocks, small of back, Inner thigh, goins, perineum and genitals. In the past is has been ascribed to poor hygiene of both the baby and its napkin. But very few of these factors operate today the great majority of cases result from the universal habit of clothing the Infants in water proof paints day and night, thus ensuring the constant presence of a hot, wet Irritant compress. Today very few infants do develop napkin dermatitis.

Chronic Solar dermitis:- Normally this disease effects those fair-skinned persons who are exposed to strong sunlight for many years. This is called sailor's skin also. It is characterised by atrophy wrinkling, pigmentation (More intense in patches) white atrophic patches and warty growths. Some times some individuals may react abnormally to sunlight and a variety of reactions may result. These reactions consist of a number of elements such as erythema, papules, blisters and eczymorphic. Such a disease is called polymorphic light eruption. In such Individuals the pattern remains constant.

Acute X-ray dermatitis: This disease may arise from a single excessive dose or from many doses repeated too often. The effects are erythema, pain, swelling, blistering and ulceration. Then there is another disease called chronic X-rays dermatits which is usual after



Fig 3 5 · Polymorphic Light Eruption (Juvenile Type)



Fig 3 6 · Polymorphic Light Eruption (Adult Type)

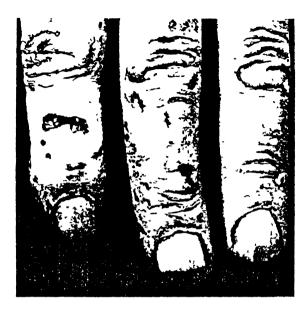


Fig 3 7: Malignant Ulceration due to Handling Radium (Fatal)



Fig. 3.8: Chronic Radio Dermatitis

radiotherapy and may also be the result of frequent Exposure to small doses of X-rays over a prolonged period. The affected skin is dry, hairless, depigmented and atrophic and tends to crack easily. The surface also shows patchy pigmentation. Itching and burning are felt especially in cold weather. Later on small warty keratoses appear.

### Nummular Eczema :-

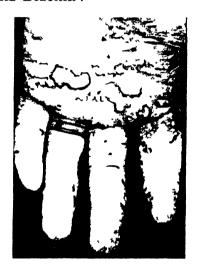


Fig. 3 9 Pompholyx

The three main features of this type of eczema are well defined round or oval, coin-like patches formed, or coalescence or extension and discreet populovesicles. The sites of election are the calves and shine. Extensor aspects of the forearms and backs of the fingers and hands but in severe cases the thigh, upper arms and trunk may also be involved. The condition usually remains in the oozing or crusted stage. It is a disease of adult life. In women it is usually seen in late adolescence and early adult life on the backs of the fingers and hands. In men it more often occurs in the

fourth or 5th decades on the limbs and is associated with physical and mental stress. It may affect the dry senile skin in both sexes. Then there is another type of eczema called pompholyx eczema of the hands and feet. This type of eczema occurs on the sides and fronts of the fingers and palms (Fig. 3.9) and in similar position on the toes and feet. Owing to the great thickness of the horny layer at these sites. On the palms may be so deep that they merely produce flat elevations of the surface which do not contain fluid. In these diseases Itching and burning are usually Intense. Pompholyx may occur in children but is common in the first half of adult life. Typically it occurs suddenly. The hands being affected more often than the feet. The average attack last couple of weeks and occurs in the summer.

#### Psoriasis :-



Fig. 3.10: Lichen Planus

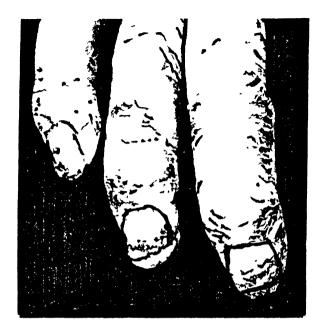


Fig 3 11 . Arthropathic Psoriasis

Psoriasis, parapsoriasis, pityriasis Lichenoides, pityriasis Rosea and Seborrhoeic Dermatitis are common in dermatology. Though their exact causes are not known. All these have been grouped together because in each condition the cardinal physical signs are erythema and scaling and they are frequently mistaken for each other. Psorias (Fig. 3.10) is characterised by sharply defined patches of earthema covered by silvery scales. Although psoriasis is one of the common skin diseases in India. It's cause is not well-know. It may occur at any age, although it is rare in infancy and old age. The common age of onset is five to fifteen years. It is not Infectious. Both the sexes are equally affected. It is not common in tropics. The attacks may be precipitated by emotional stress, and by Intercurrent

Infection. Psoriasis is commonly: found in knees and elbows which are constantly subjected to mild trauma. Arthropathic psoriases (Fig. 3.11) is a form of skin disease in which it is associated with a type of erosive arthritis very similar to rheumatoid arthritis. The nails are also involved in most of the cases. Another type of psoriasis is pustular psoriasis. Occasionally sterile pustule formation is a feature of this disease. This is usually localised, in the common form superficial lakes of pus appearing in crops on a background of erythema most commonly on the centre or inner aspect of the sole (Fig. 3.12). The Individual pustules dry up, turn brown and exfoliate off, but the whole condition is very chronic and lasts many years. Sometimes pustulation may become widespread and associated with sheets.

Of vivid erythema ----generalised pustular psoriasis. This is the severest form of psoriasis and may prove fatal in many cases parapsoriasis is an uncommon erythemato--Squamous eruption which occurs in adults on the trunk and upper part of the limbs. These have a reddish-yellow colour and slightly crinkly face surface. The lesions are symptomless and persist unchanged for a long time.

Pityriasis Lichenoides: Pityriasis lichenoides is another skin disease with certain features resembling psoriasis. It is symptomless and perisists unchanged for years being completely unifluenced by any treatment other than ultra violet light. It affects children as well as adults. The individuals lesions, which are profuse on the limbs and trunk come and go, passing through a regular cycle of changes, though not in unison. Occasionally acute hemorrhagic lesion occur, leaving behind small depigmented scars.

Pityriasis Rosea :- It is another skin disease characterized by an eruption of pink oval macules on

the trunk and upper parts of the limbs, which tend to scale from the centre onwards. It is probably a virus infection. Both the sexes are affected by this disease. The first lesion is usually the herald patch a red scaly macule upto 4 cm in diameter situated on some parts of the trunk or upper part of the limbs. The general eruption appears suddenly all over the trunk and the upper parts of the limbs. The general eruption consists of two types of lesion, small red follicular papules and the pink types of oval macules characteristic of the disease. Typically a ring of scales is formed whose free edges are towards the centre and attache edges towards the periphery of the lesion. The only symptom of this disease is itching.

Seborrhoeic Dermatits: This skin disease causes two basic morphological patterns, a scaly erythematous plaque and a follicular papule. These features are modified not only by the severity and extent of the euption, but also by the site affected. The eruptions known as "Seborrhoeic" were so called because the scales were supposed to represent dried sebum. It is now known that the scales are in all cases composed only of



Fig. 3.12: Seborrhoeic Dermatitis of Hair Margin and Eyebrows

horn cells and when they appear greasy, the moisture is due to serum not sebum. (Fig-3.12). these eruption are commonly seen in patients who have actual seborrhoea (an excessive flow of sebum).

Seborrhoeic dermatitis of the face: This skin disease occurs as slightly scaly, pink-patches particularly on the forehead, in the naso-labial folds and on the face and upper lip, but also on the cheeks, chin and upper eyelids, neck and axillae. The scales may be silvery or yellowish and greasy looking. The patients complain of burning tightness of the skin which is aggravated by soap on the front and sides of the neck, to which the condition commonly spreads, it is often limited to the creases.

Lichen Planus:- This type of skin disease is so named because the physical signs consist of flat-tapped papules.

Connective tissue disorders: The term connective tissue disorders applies to all inherited or acquired disorders of connective tissue. The group connective tissue disorders comprises rheumatic fever, rhematoid arthritis, systemic lupus erythematosus (SLE), discoid lupus erythematosus (DLE)., seleroderma, systemic selorisis, polyarteritis nodosa, dermatomyositis and mixed connective disorders.

DLE (Plate 13-1, 2, 3, 4) is a benign disorder of the skin, involving the face and sun-Exposed areas of the body. It is characterised by reddish, well-defined scale plaques, with atrophic skin in the centre. It affects females twice as often as males, the peak age of onset being the fourth decade of life. SLE (Plate 13-5, 6, 7, 8) is a multisystem disease affecting connective tissues



Fig 3 13 Discoid Inpus Erythematosus (DLE)—Bilaterally Symmetrical Lesions over the Face showing Typical, Depigmented, Atrophic Skin with a well defined, Hyperpigmented Border Note the Keratotic Plugging within the Depigmented Area The Lower Lip is also affected In Coloured Skin, the Lesions are more often White than Erythematous and may be aptly described as Lupus Depigmentosus



Fig 3 14 DLE Classical Depigmented DLE over Butterly area of the Face The Lesions show Atrophy, Selerosis, Patchy Erythema and well defined raised Borders



Fig `15 Disseminated DLE—Widespread DLE involving Forehead, Cheeks and Lips with Typical Pink Discolouration and Hyperpigmented Borders



Fig 3 16 Disseminated DLE—Extensive Dissemination of DLE over Extensor Aspect of both Upper Limbs Lesions such as these may be associated with Vitiligo



Fig 3.17: Face in SLE—Multiple Erythematous Lesions and Scattedred Haemorrhagic Spots of SLE over the Face The Toxic Look is a result of Severe Constitutional Symptoms

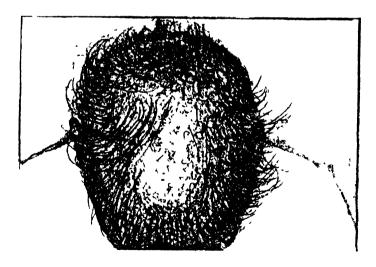


Fig 3.18 :Cicatricial Alopecia in SLE—Scarring and Alopecia over the Scalp in SLE



Fig 3 19 Systematic Inpus Erythematosus (SLE)—Classical Erythematous and Telangiectaic Lesions in Butterfly distribution over the Face, Skin around the Eyes, Sides of the Nose and Chin is Spared

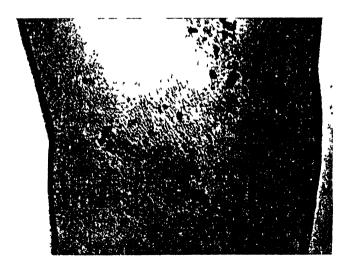


Fig 3 20 Extensive Morphoea—Large, Selerotic Plaques of Morphoea with Pigmentation and Wrinkling of the Skin

and the vascular system associated with immunological abnormalities.

Seleroderma is a connective tissue disorder in which there is localised or generalised selerosis of the skin. The localised variety is known as morphoea. The natural course of the disease is towards spontaneous cemission. Systemic selerosis is a disorder in which there is wide spread skin selerosis. The disease may begin at any age, with the peak in the fourth decade. In this disease Gastrointestinal tract, lungs and Kidneys are involved.

Cutis Laxa is a rare condition in which there is abnormality of connective tissue and deficiency of elastic fibres, resulting in inelastic skin. Cutis laxa commonly affects the face and neck skin which hangs in loose folds giving a prematurely senile and blood hound appearance to the face. It may involve internal elastic tissues cavsing pulmonary and cardiovascular abnormalities.

Ehlers-Danloc Syndromme is a group inherited disorders in which there is quantitative deficiency of collegen. It is characterised by hyper elasticity of the skin, fragility of skin and blood vessels and hyper extensibility of joints.

# The Role of Yoga

The roots of Yoga stretch back into the past. Yoga is an integral subjective science whose spiritual, mental or physical import cannot be separated from each other. According to Panini, the grammarian, the word yoga is derived from two roots viz., Yujir and Yuja ----one referring to yoking (Yujir Yoga) and the other referring to mental concentration (Yuj Samadhi). According to vedanta, yoga means supreme realization. Yoga is the reunion of the living self with the supreme self.

Basically, all physical and mental knowledge is, of necessity an Experience. A conception uncorroborated by experience remains a speculation and we can never be certain of its reality. We are living in an age of explosions, explorations and paradoxes. We have conquered the unconquerable and achieved things beyond the wildest dreams of our ancestors, science has changed our world into a place of abundance and plenty. But on the one hand, the unprecedented growth of the knowledge and privileges of man have taken place, on the other, due to his ever- increasing ambitions, desires, his restiveness and tensions have also increased. Materialism could not fill the gap of spiritual and social dissatisfaction. Even today, the human being is as much destitute, suspicious, aggressive and restless as he was perhaps in the primitive age. In yoga, the

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physical system. The word "Hatha" is derived from the ancient Sanskrit words "Ha" and "Tha", meaning the sun and the moon. These symbols refer to the physical and metaphysical aspects of yoga. Our physical and mental faculties must be so trained that they shall function with rhythm and harmony. The symbols like the sun and the moon are applied to various functions of the physical and mental organism particularly to the respiration and nervous system. The perfection of health is the first condition but the radiant health is of a higher order.

Today, no branch of yoga is more popular and at the same time more misunderstood than the Hatha Yoga. Its popularity is due to its insistence on health. All diseases and disorders of physical organs are the result of different kinds of impurities. The keynote of Hatha Yoga is purification. If the blood is impure, the brain and nerves and Psycho spiritual life cannot be healthy. Endurance, purification of blood, resistance to disease, the disciplined nerves, the alert mind are the main qualities of good health.

Hatha Yoga is the only Ideal system for attaining Harmonious development of body, mind and mental health. Patanjali the great sage states in his "Sutras" that the harmonious development of body, mind and soul can be obtained through the eight limbs of Yoga:-

- 1. Yama (Abstinences) Moral conduct, truthfulness and non-covetuousness.
  - 2. Niyama (Observances) of cleanliness, contentment, self-discipline.
  - 3. Asanas (Right postures) for the internal systems of the body.

- 4. Pranayama (Breath control) controlling of prana by regulating breathing processes of Inspiration. Expiration and retention of breath.
- 5. Dharna (Concentration) Fixing the mind on one object at a place or point.
  - 6. Pratyahara (Sense withdrawal) Turning the senses inward and with drawing them from external objects.
  - 7. Dhyana (Concentration) or meditation. Keeping the mind fixed exclusively on one object or Idea.
- 8. Samadhi (Self-realisation) super conscious experience in trance where enlightenment or union with self takes place. The first five of these steps refer to external and the remaining three to Internal aspects of body. Hatha Yoga suggests a natural and normal manner of living. It keeps close to Nature and encourages natural methods in preference to artificial habits of living. Hatha Yoga is a system of bodily purification (both Internal and External).

# Yoga Therapy—1

Yoga therapy is a subjective science based on selftreatment. According to yoga therapy, disease, disorders and physical and mental ailments are the result of faulty ways of living, bad habits, lack of proper knowledge of things, improper food and foreign matter accumulated in Individual's body and life. Yoga has its own therapy which is a specialised form of yogic culture. It is different from the medicinal system because in it the External agent (Medicines) does not play the primary role of restoring health of the patient. It is the patient himself whose personal understanding constant and careful practice cure his disease. Yoga Therapy does not aim at merely giving a superficial relief of symptoms and signs of disease. This therapy leads to an integrated and complete cure of the five constituents i.e., panch koshas of human being, Annamaya kosha, gross physical body. Pranayama kosha, pranic sheath, Manomaya kosha, psychic sheath, Vidnamaya kosha, power house of Intelligence and thoughts and Anandmaya kosha, Divine Gossamer, since this therapy leads to an integrated and complete care of the five constituents of human being. It requires the knowledge of Anatomy, Physiology and Psychology. Yoga therapy lays stress on Yogaasanas, proper knowledge of things connected with the life of an Individual, vogic diet and correct breathing (Pranayama). It is the Individual's mistake which can

cause a disease so Individual himself can cure the disease. This is the basic assumption of yoga therapy. A person falls sick when his defences are weak in other words when his vital force is at a low ebb. It is the vital force which protects him against disease and decay. The vital force is the storehouse of his physical strength, his vigour. Its ebb and flow influences the state of his health. Maintaining the vital force, a person has to follow some simple principles given below:-

- 1. Proper Diet: All forms of life whether plant or animal need certain basic element to grow and to live. These basic food elements must be present in the diet in adequate proportion and must be taken regularly. A human body consists of millions of living cells having different functions. Each cell needs proper care and nourishment. To ensure this we must select proper diet. Human bodies have the power to fight diseases and Illness and replace worn out tissues with new cells.
- (a) Proteins: Protein is the most important part of every living organism. Each cell whether in bones, muscle, nerve or skin builds up its own particular type of protoplasm. This is the living jelly-type material of which all cells are composed. The cells must have daily supply of protein and carbohydrates. The protein requirements of the body depend upon the rate of growth. During childhood, pregnancy and lactation, slight increases are recommended to ensure proper supplies for growth. Soyabean, nature's great gift to man is one of the richest sources of complete protein. Soyabean also contains a high quality vegetable oil that has no cholesterol in it.
- (b) Carbohydrates: carbohydrates can be absorbed into the blood stream and utilised by tissue cells only as simple sugars namely dextrose and glucose. There are primary and secondary sugar producing foods. The primary sugar producing foods are sugar, honey, molasses, dates, raisins, rice, wheat, sago. The secondary

sugar producing foods are potatoes, radish, plantains, beat, mangoes, onions, ground nuts and cloves. The need of the body for carbohydrates depends upon the amount of physical activity and the quantity of other energy foods available. For example the carbohydrates intake of a labourer may be 50 to 100 percent higher than a teacher

- (c) Fats:-Most of the oily substances taken as food may be termed as fats i.e., ghee, butter, oil etc. The primary fats are composed of fatty acids and glycerol. Like carbohydrates the required quantity of fat depends upon energy requirements and the amount of other energy foods available. Fats are derived from both animal and vegetable sources. Fruits and vegetables contain very little fats.
- (d) Vitamins: For the growth and vibrant health, the role of vitamins is very important. Vitamins are involved in the nutrition of the body cells. For every human body vitamins are needed in small amounts. The vitamins deficiency can give birth to many diseases and ailments.
- (e) Fat Soluble Vitamins: Vitamin A is called "the beauty vitamin". It is needed for maintaining a normal condition of the epithelial tissues. Vitamin A is essential for normal growth of bones and teeth particularly in children and young people. The vitamins A deficiency can cause night blindness. Vitamins A is found in fish liver oils, drumstick leaves, green vegetables, spinach, cabbage, carrot, tomatoes, ripe mangoes oranges and banana.

Vitamin D is called "The sunshine vitamin" because when the ultra rays of the sun fall on the skin, Vitamin D is formed. This vitamin is also called the "Anti-Rachitic Vitamin" because its absence from the diets of Infants results in the disease known as "rickets" Vitamin D is needed in the development other fat-soluble vitamins

are Vitamin K and E. Vitamins K assists coagulation of blood and it is very much needed for the body of the pregnant women just before delivery and vitamin E is useful in the building up of tissues.

(f) Water Soluble Vitamins: Vitamin B is of great importance for the human body. It enters into almost every chemical reaction within the body. Without Vitamin B, the cells cannot utilise oxygen or fuel for energy, nor can the nervous system function properly. The early Investigators and physicians discovered the substance which they called vitamin B were surprised to discover a whole family of B Vitamins--- more than a dozen of these vitamins---- performing a wide variety of functions. Most of these B complex vitamins work together for the benefit of the body.

Vitamin C (Asorbic Acid) is called "The great healer" of the body. It is particularly needed by those who are suffering from some severe infection or prolonged illness. The absence of this vitamin in the diet can cause a disease known as scurvy. The best sources of Vitamin C are the citrus fruits which include orange, grape, lemons, anila, guava and tomato.

(g) Mineral salts do for the body what sand and cement do for the construction of a building. Calcium and phosphorus are needed for building strong bones and teeth. Other minerals act like "Sparking Plugs". The traces of minerals considered to be essential for the body are Calcium, Potassium, Iron, Iodine, Sulphur and Zinc.

After minerals the Importance of water is of great value. Water, the Elixir of life, the liquid of life, works as a preserving and lubricating agent. Water enters into every reaction within human body. More than two third of our body is composed of water in some form or the other. Everyday our kidneys filter between 10 to 15 gallons of water for us. The person who does not drink

sufficient water required daily may develop skin dryness, skin diseases constipation and other digestive disorders. Most of the skin diseases, physical ailments prevalent in under developed countries are due to unsafe and impure water. Drinking water should be safe and pure free from pathogenic agents and free from harmful chemicals and pleasant to the taste. Water is said to be contaminated when it contains parasitic agents and poisonous chemicals. The importance and uses of water have been dealt with in detail under water Therapy.

In Yoga Therapy diet is classified into Sattvic, Rajasic and Tamasic. Lord Krishna says to Arjuna "The foods that augment vitality, energy, vigour, health joy are sattvic foods". The foods that are bitter, sour, saline, overhot, pungent, dry are Rajasic"., and the foods which are stale, tasteless, stinking, roasted, fried are Tamasik". Yoga therapy recomonerds sattvic diet. Milk, Barley wheat, Cereals, Butter, Honey, Tomato, fruits and green vegetables are sattvic. Person suffering from skin diseases should not take Tamasic foods. They should avoid chillies, pickles, roasted and fried things. These can aggravate the skin diseases. Yogic diet is balanced but lacto-vegetarian diet.

2. Science of breath (Pranayama): Breath is life. To breathe means to live. Man can live without food for a couple of days without water for a couple of hours but without air man cannot live for a couple of seconds. The importance of breath awareness has been recognised by various cultures since the birth of man. Today this is being proven in many cases that stretching movements with breath awareness can help muscle tone, improve glandular activity and revitalise the internal organs prana is altogether different from Breathing. It is insides the blood and the bones. Life may continue without one or the other organ, but since prana is the pivotal force, all the functions of the body depend on it. Without prana-

-- the breath of life, body dies and decays prana can be felt in the palpitation of heart, its systolic and diastolic actions, in the actions of Exhalation, inhalation and retention during the course of breathing, in the digestion of food, the manufacture of semen, gastric juices, bile and other actions like walking, talking, thinking etc. This prana is the vital link between the astral and physical body. As soon as this link is snapped, death occurs. Pranayama is a scientific, mental and physical exercise, particularly of the diaphragm, the abdominal muscles, the heart, liver, the nervous and endocrine systems, spinal cord etc. The three stages of pranayama are puruka (Inhalation), Kumbhaka (Retention) and Rechka (Exhalation). A person who practices pranayama regularly always enjoys excellent health sparkling eyes. sharp memory and concentration of mind. In order to have best results of Pranayama one should have purity of thoughts words and deeds. One must choose a neat, clean and airy place so that one can do exercises without disturbance Impure and "Tamassik" food retards one's mental and spiritual growth. Sexual life should be well. --regulated because excess of sex leads to many maladies and ailments which can shorten the life span.

Prana is much more than breath. It is the vital force in everything. It is the cosmic energy that pervades the whole universe. Prana is force, magnetism and Electricity. Prana in the air performs a number of functions in the human body. Each of these has a specific name and aim.

- 1. Prana: It circulates in the area around the heart and controls breathing.
- 2. Apna :- It circulates in the lower regions of the abdomen and controls Excretory functions (Urine and faeces)

- 3. Samana:- It stimulates the gastric juices and aids digestion.
- 4. Udana: It remains in the thoractic cage, and controls the absorption of air and food.
- 5. Vyana :- It spreads throughout the body and distributes the energy from food and breath.
- 6. Naga:- It relieves abdominal pressure by provoking Excretion.
- 7. Kurma: It controls the eye lids to prevent foreign bodies from entering and dazzling light from harming the eyes.
- 8. Krkara:- It prevents certain substances from rising into the nasal cavities or descending into the throat causing sneezing and coughing.
- 9. Devadutta: It ensure the absorption of Extra oxygen into a tired body and causes yawning.
- 10. Dhananjaya :- It remains in the body even after death and sometimes causes the corpse to swell.

Before doing pranayama exercise, it is necessary to keep in mind certain basic instructions. A small cup of milk, fruit juice or tea should be taken before starting pranayama. Bath should be taken at least half an hour after the pranayama. Too much talking, sleeping and eating should be avoided. For doing pranayama exercise the three best known Asanas are Sukhasana, Siddhasana and Padamasana. The practitioner can sit in any asana convenient to him. Loose fitting clothes should be worn. A folded blanket should be placed on the floor. Breathing should always be done through nose and not through mouth. Tobacco, drugs, alcohol even cold drinks should be avoided. They can cause great damage to respiratory organs. It is better to avoid doing pranayama exercise when one is suffering from some

serious mental or physical aliments. During pregnancy or period of menstrual cycle and menopause women should not do any strenuous or vigorous exercise. They can do light Pranayama. When the practitioner of pranayama perspires he should not use towel to wipe off the perspiration. Instead he should rub it on the body itself with his hands. The breathing (Inhalation Exhalation) must be slow, rhythmic without jerks and jolts. The period of retention of breathing should be increased gradually by seconds.

Persons suffering from skin diseases are required to do following Pranayama Exercises. There are many parasitic, and virus skin diseases about which yoga is silent. But we have given below only those exercise of Pranayama which have corrective, preventure and curative value:-

### Exercise No. 1.

Sit on a folded blanket in Sukhasana or Siddhasana. The body should be kept perfectly steady with head, neck and back in straight line. Close the right nostril with the right thumb and slowly inhale through the left nostril as long as you can with ease and comfort. Then exhale through the same nostril. Then inhale with the right nostril by closing the left nostril just the same manner as done previously, repeat it 5 times.

# Exercise No. 2.

In the sitting posture, close the right nostril with the right thumb and inhale through the left nostril. Then retain breath for a couple of seconds. Repeat the same with left nostril. The period of retention of breath should be increased by seconds.

# Exercise no. 3

In the same sitting posture, inhale breath with both the nostrils and retain breath for a couple of seconds and then exhale breath in a slow, rhythmic way. The period of retention of breath should be increased by seconds. The real strength, vigour, vitality lies in the retention of breath. It is said longer retention of breath has a longer life.

## Exercise No. 4

In the same sitting posture, inhale and exhale breath quickly 7 to 12 times. Then inhale air deeply and retain it for a couple of seconds. While retaining the breath glottis should be closed completely. The nostrils should also be blocked with your thumb. Increase the period of retention of breath and then exhale breath slowly. This is called Bhastrika Pranayama. It removes the phelgm and cleanse the skin pores, nerve channels, purifies blood stream, regenerates the liver, spleen and pancreas and tones up the entire skin.

## Exercise No. 5

Sitting again in Sukhasana or Siddhasana, inhale through both the nostrils and plug your ears with fingers and close your glottis. Retain breath for a couple of seconds and exhale breath slowly and rhythmically. Repeat this exercise with partial closure of glottis. This Pranayama is beneficial for the skin pores and nerves, cells and for the cleaning of the nerves channels. It also purifies the blood.

## Exercise No 6

Sitting in the same posture, protrude your tongue beyond the lips. Fold the tongue like a tube and stomach are filled with the air drawn in. Retain the air as long as you can conveniently without any strain or suffocation. Then exhale air through both the nostril. This exercise must be done 10 to 12 times daily. This pranayama exercise gives great tenacity of life to the practitioner. It banishes all type of fevers, splentitis, and several skin

disease. This exercise removes the poisonous impurities and purifies the blood.

3. Water Therapy: The pioneers of yoga therapy and naturopathy advocate that the root cause of all disease is accumulation of foreign matter in the body, faulty habits, improper diet, incorrect breathing and lack of exercise. The foreign matter causes abnormalities varying in causes and symptoms. These symptoms are named by different diseases. Diet, water, air, sunlight, exercise and rest are health maintaining factors Yoga therapy treats the complete system of the human body and all diseases affecting it as a whole and not a particular part. Yoga therapy integrates human personality.

The cheapest and the best cleansing agent- water is the third most important necessity for human health and life. Most of the skin diseases are caused due to the dryness of skin, weak pores, weak nerves and decayed cells. Those persons who take little water often fall prey to many skin diseases. Water is applied for healing purposes in many forms viz, baths, douches, massage, injections and drinking purposes and it is used in varying temperatures cold, warm, hot and in the form of steam according to the individual requirements. Cold application of water in any form of blood to the skin and consequently improves respiration. Exhalation radiation and generation of heat, circulation and stimulation of skin and nerves and absorption of oxygen through the open pores of the skin. Warm or hot water or steam has the sane effect, but these forms are needed in cases where reaction is entirely wanting and where no heat is to be taken away from the body. Generally, ordinary cold water is used. The degree of coldness of water used depends upon the vitality and reactive power of the bather i.e., the more vital the body, the more cold water required. Tepid water is preferred where power of reaction is too low. The main objects of water application are :-

- 1. To dislodge the morbid matter in the blood.
- 2. To expel the dislodged matter.
- 3. To restore the purified blood to its proper circulation.
  - 4. To brace up the enfeebled organism.
- 5. To keep the body functions and body temperature normal.

Careful attention to the individual requirements in the various sorts of water is essential.

Bath is a daily routine. Cold water is so effective with the grease and dirt closing the pores of the skin. Hot water mixed with lemon juice is the best cleansing agent for the skin. Take a lemon and roast in lightly over a fire. Then cut it into two parts, dip a part in hot water and rub it over your skin. This will cleanse the skin. Hot bath before retiring is the best. It helps you to have a sound sleep and if you cover your body after a hot bath, it will protect you from the danger of exposure. Before bath the whole of the body should be rubbed with your palms. If bath is taken in correct manner then there will be little danger of any skin eruption or itch. The face will be free of pimples and blemishes. The skin will acquire a healthy glow and if the skin is dry, rough and leathery, it will become pink and soft.

(a) Hip Bath: Hip baths are useful in stimulating the stomach, spleen, intestines, kidneys, liver and maintaining their efficiency.

Technique -- Fill oval-shaped tub with lukewarm water to a depth of 12-14 inc. Drink a glass of lukewarm water and sit in the tub with the abdomen and part of the thighs submerged in the water, and the upper trunk

and the legs outside the tub keep on massaging the abdomen with soft napkin or towel remain in the tub 15 to 20 minutes. Thin persons should take it only for 15 minutes and the fat or obese persons can continue it for 20 minutes. A hip bath should always be taken on an empty stomach. Bath should be taken after 2 hours after the hip bath.

- (b) Genitals Bath :- Genitals bath is very useful for the skin, nerves and cells of the body. Place a stool one foot long and 8 inches wide in the tub. The water level in the tub should be one inch above the stool. The water should be cold in summer and hot in winter. Sit on the stool after removing your clothes. Gently rub your abdomen and the private parts with soft towel. This should be continued from 15 to 20 minutes. A lean person can do it only 15 minutes and a fatty person can do it for 20 minutes. Ladies should rub their abdomen and the lips of the vagine slowly and they should rub the spine. Ladies should not take hip bath or genitals bath during menstruation period.
- (c) Steam Bath:-Steam bath is also useful for the elimination of poisonous substances from the skin. A steam box is necessary for the steam bath.

Technique:- Stomach should be empty before the steam bath is taken. Drink a glass of lukewarm water and sit down in the steam box with no clothes. A soft towel wetted with cold water must be wrapped around the head to keep it cool. Cold water should be sprinkled from time to time on the head during the steam bath. Now steam from the kettle should be let into the steam box. When perspiration has been formed the bath should be discontinued. After emerging from the bath, the body should be wiped with a wet cloth. Weak persons, pregnant women and patients suffering from hypertension or heart ailments should avoid steam bath. Normally a steam bath should be taken once a week.

(d) Hot Foot Bath :- Hot foot bath is useful in toning up the skin pores, nerves and cells and also in reducing conjection of blood. Lukewarm water should be used for the hot foot bath. Hot water sufficient to fill about three quarters of a large bucket, and a napkin are required for hot foot bath.

Technique:- Place the bucket of hot water in front of chair. Drink a glass of warm water and sit on the chair with minimum, clothing. Immerse both feet in hot water. Wrap the blanket around the body and place a napkin wrung out in cold water on the head. As the water gets cold, go on adding more hot water. Cold water should be sprinkled from time to time on the napkin placed on the head. Ladies should normally keep the hair dry while taking hot foot bath. After the bath, the body must be wiped with a cold wet cloth and one should lie down in Shayasan and relax.

(e) Spinal Bath: The spinal column is the tree of life. The spinal column relays message or commands received from the mind to other parts of the body. A soft towel and a blanket are required for spinal bath.

Technique: fill the tub to a depth of about 4 Inches-Lie down in the tub with the arms and the legs outside the tub. The entire spinal column should be kept under the water level. Wet the bath towel and place it as a support for the neck and the head on the slanting side of the tub. This bath should continue for about 15 minutes in winter and 20 minutes in summer.

- (f) Sun Bath:- Sun light is both a bane and a boon for skin diseases sun light plays a vital role in restoring health. The sun gives three types of rays to us.
- 1. Infra red rays: These are heat importing rays. The warmth of these rays is soothing and refreshing in winter. These rays relieve pain and reduce swelling.

- 2. Ultra Violet Rays: These rays produce vitamin D in the body. A deficiency of vitamin D causes disease of the bones known as Richest. Ultra violet rays are required for the healthy condition of the skin. The person who cover their bodies from head to foot are more prone to skin diseases.
- 3. Rays of White Light: The white light of the sun comprises seven colours of the rainbour each colour has its specific effect on the skin of our body.

Sunbath improves the resistance of the skin and it nourishes the muscles and nerves of the skin. If the skin is deprived of sunlight by keeping the body covered the muscle become weak. Sunlight can help in the formation of teeth, growth of hair, some skin diseases are cured. blisters burst and wounds heal more speedily by the sun light. When sufficient sunlight is not available, the proportions of fibre and red blood corpuscles in the blood decrease. But the exposure of the body to the intense sunlight should be avoided. It is advised that the head be covered and the eyes closed while taking a sunbath. Sunbath should be taken after without clothes. A feeling of discomfort, giddiness or burning sensation of the skin is an indication of excessive exposure of the sunlight and the sunbath should be discontinued after taking sunbath one should relax in Shavasana

(g) Air bath: - After food and water, air is of paramount importance for life. The ozone in the air helps the lungs to cleanse our blood of carbon dioxide. The pores of the skin need air as much as the lungs. Deep breathing (Pranayam) enables the lungs to inhale more air. Carbon Dioxide and other toxic substances are formed in the cells. Carbon dioxide then dissolves in the blood. When we breathe in, oxygen of the air enters the lungs and dissolves in the blood. When we breathe out, carbon dioxide formed in the body is expelled. Thus the blood

gets purified in the lungs. During Yoga-asanas in open areas covered with greenery is highly beneficial for health.

- (h) Massage: -- Yoga therapy recommends massage with mustard oil in winter season. Mustard oil is a healthy, invigorating and useful oil. It penetrates into the pores of the skin and imparts elasticity and strength to the muscles, bones and nerves. It also helps to remove the wrinkles and dryness of the skin. Strenuous exertion results in the accumulation of lactic acid in the muscles. Massage helps to rid the muscles of this acid. Great are the uses of massage for the skin. Massage activates the urinary system, circulatory system, digestive system. A massage should be followed by a bath with lukewarm water. The process of massage should start with arms and legs followed by chest, abdomen and buttock persons suffering from High blood pressure should reverse the direction of massaging movements. They should start from head to foot. In cases of some skin diseases massage should be avoided. Massages should also be avoided in cases of gastric or dudenal ulcers, appendietic, fevers and during pregnancy.
- (i) Rest and sleep:- Sleep is necessary for human beings but oversleeping is harmful. The old age early to bed and early to rise is true for all times and all ages. It is also true after lunch rest a while and after dinner walk a while during summer a siesta or nap for an hour or so is soothing and refreshing. It gives sense of relief from exhaustion. In yoga therapy there are two types of rest. Short and long rest.

The short rest should be taken for a couple of seconds after doing each asana. The long rest should be taken after doing asanas, Pranayama and other kriyas. Shavasana should be done last of all. Shavasana is an excellent Asana for complete physical, mental spiritual relaxation and refreshment.

- (j) Self-Medication :- Self-medication has no place in yoga therapy. Many of the ills that affect modern man are minor in the sense that they do not produce profound or lasting changes in body tissues. We cannot always know what is a minor ailment but most people assume that they do not worry about something which is not severe or long lasting or which they have treated previously satisfactorily with self-medication. The conditions most commonly subject to self-medication are some skin diseases, temporary headaches, sleeplessness, muscular aches, allergic symptoms and colds. The agents used for such self treatment include aspirin and other pain relieving drugs, sedatives, skin lotions and ointments self-medication except for minor and temporary conditions doesn't make sense for the following reasons:-
- 1. Symptoms are confusingly similar and deceptive because the same symptoms can arise from many causes. It is not logical to be treating oneself for something when one does not know what it is.
- 2. Reactions to drugs differ with different people and the same person at different times and under different conditions.
- 3. Covering up pain with a pain killer, insomnia with a sleeping pill, anxiety with a tranquilizer or fatigue with a stimulant fails to get at the basic causes of these conditions and may cause dangerous disease.
- 4. Using a drug prescribed for someone else is likely to be useless, detrimental, or dangerous because individual circumstances needs, reactions, are likely to be different.

Non-medical persons do not understand how complicated modern drugs are, the dangers of side-effects. Drug may have unexpected effects. Most people

are astonished when they are told that laxatives are the principal cause of constipation in many persons. Laxatives simply make the bowels move which is a very different thing from over-coming constipation. Besides, many symptoms are not what they seem, for example for "acid stomach" the doctors advice "take alkalizer". If the over-acidity is due to an ulcer or to a bobellious gallbladder, no amount of alkali will solve the problem. These are some of the reason why self-medication does not make sense. Alkalisers, cold tablets, pain-killers give no permanent relief but merely cover up symptoms, proper treatment and in some cases make the disease serious.

# Yoga Therapy—2

Having discussed some skin diseases, and essentials of yoga therapy, we wish to discuss some common skin ailments which can be treated more effectively with yoga therapy. Most of the people suffer from body itch. The patients are advised to take saltless diet and some of them take bread tomatoes, green gram and milk. First of all the patient should know what itch is. It is a skin disease caused by impure blood. The best way to purify the blood is to do Pranayama exercises and to take water in plenty. The patient should ensure that he avoids his stools and passes urine in adequate quantities and also perspires so that poisonous substances are expelled from his body. He should apply a light paste of coconut oil and lime juice on Itching skin. That will destroy the germs that cause the Itch which is contageous.

Another skin disease is Acne. This disease affects the sebaceous gland (glands which produce the oily secretion). These glands are especially large upon the nose. These glands develop at puberty. It occurs in both the sexes particularly between the ages of thirteen and twenty. The cause is often attributed to dyspepsia, lack of fresh air and lack of exercise. For this disease yogasanas are a must. Costly lotions, ointments, creams and drugs cannot cure it. They simply suppress it. Here diet plays important role. The cure for Acne is to take

diet which must not contain any sugar or fact as it increases acidity and causes dyspepsia and constipation. Here also, pranayama and yogasanas can be highly beneficial. Because pranayama can expel the poisonous, toxins and open the pores of the skin through profuse perspiration with Asanas. Fruits and vegetables in diet can be very effective in dealing with acne. Moreover, plenty of water can eject the morbid matter from the bladder. If seasonal fruits and raw vegetables like tomatoes, carrot, cucumber, spinach and cabbage are taken regularly, ace would vanish completely. Moreover, steam bath opens the pores of the skin and with the application of lime juice on the face, will remove the dirt that might have gone into the pores.

Then another common skin disease is eczema---inflammation of the skin of a catarrhal character. It is attended withpapules, vesicles or pustules, discharge, itching and irritation. Generally persons with morbid constitution and constipative, fall prey to this disease. Eczema in its acute form shows itself by redness and swelling of the skin, Irritation and Itching with colourless discharge oozes which form skin crusts. Such attacks may occur as a result of digestive disorders or in persons of rheumatic or gouty tendency. Again in such patients bowels should be regular and water should be taken in plenty. Eczema is the result of psoric poisons. The real cause is the accumulation of poisons in the orifices of the body. Waste matter is excreted through the stools, urine and pores of the skin. Again according to yoga therapy, water should be taken in sufficient quantity. Yogasasana can give perspiration and the pores will open and expel morbid humours from the body. Cleaning of body and the blood is the best way to cure eczema. The patient should get as much of fresh air as he can. Daily intake of water should be three to four litres and the patient must bathe twice a day.

Muskmelon and carrot are highly beneficial in cases of eczema. Besides sunbathing should be done regularly early in the morning. Light mud pack applied over the area of eczema is also helpful.

Another common skin ailment is kibes. A patient suffers from kibes during winter. The hard crust on the heels cracks and starts bleeding. In summer the kibes heal naturally. The patient should know that kibes are caused by lack of alkalinity in the blood and also unclean feet. The patient must eat more vegetables and fruits to make up the deficiency of alkaline in the blood and wash his feet with lukewarm water., and apply coconut or mustard oil on the affected areas.

Most children fall prey to mumps. They feel inflammation in throat and severe pain. The patient also suffers from high temperature. This disease attacks those children whose intake of water is insufficient and who suffer from constipation. Children should be advised to take sufficient water pass bowels regularly. Fruits and vegetables should be part and parcel of their diet.

Another skin disease which affects the legs and feet and hands is called elephantiasis. The skin of the effected parts becomes thick and rough. This is a disease of the tropics and is seldom found in cold regions. There are lymph-vessels alongside the blood vessels of our body which carry the finest essence of our blood to all the parts of our body. From the degenerated blood in some bodies a kind of germ grows which travels down to some convenient part to clog the lymph circulation in that part. For such disease, Asanas particularly Pschimotasana, Naukaasana, Yog mudra, Saravangasana, Vajarasana, Shirsansana, Makarasana are highly beneficial. Bathing of body and sufficient intake of water are essential.

Onion enriches the health of the people. The importance of onion in Indian diet has been recongnised from ancient times only recently systematic study has been made in the light of new knowledge of nutrition with the result that onion has been found to be essential for a balanced diet. Onion bulbs with common salt is a domestic remedy for colic and scurvy. It is applied locally to allay skin Irritation insect bites, scorpion stings and also for skin diseases.

The bodily postures or Asanas form the third step of Hatha Yoga. The word Asana means "Easy" comfortable "Asanas help to strengthen the body and stabilise the mind. That posture in which a man can remain longest without effort is for him the best. Asanas are of two types static and dynamic. During the practice of all sitting postures, the spine, neck and head should be kept erect. the eyes either closed or fixed on the tip of the nose or in the middle of the brows. Physical exercise have only physical effect on the muscles and bones. But yogasanas aim at the harmonious development of body mind and soul. Different Asanas have different effect on the organs of the body. In our body organism cells, tissues and glands play very important role. One diseased cell can affect the whole system. Blood circulation plays a vital role in carrying food particles from digestive organs to tissues and the heart which is an indispensable organ in the circulatory system. Every practitioner must keep in mind some basic principles before starting Asanas. Asanas must be performed with faith, determination and regularly without any interruption and distractions. It is much convenient to practise Asanas in the morning. After taking a glass of water, first washing and cleaning the teeth and mouth and evacuating the bowels. One hour after Asanas, bath should be taken with cold water of lukewarm water in accordance with age and season.

Asanas should not be done with tight dresses or garments on the body. Spectacles, watch, waist belts, boots, brasiers should be removed while doing Asanas. Asanas should not be done after a meal. Asanas should be done in a quiet, calm, clean and secluded place with fresh air. In unfair and rainy weather Asanas should be done in an airy room or verandah free from mosquitoes, flies, ants and bugs. During the practice of Asanas and pranayama no strain or stress or jerk should be felt in the facial muscles, face, ears and eyes. Except in case of Simhasana and Vyagrasana, the eyes and mouth should remain closed during practice of Asanas. The body should remain active and the mind watchful free from any worry, tension, stress and unholy thoughts. While doing Asanas breathing should be done through nostrils and never through mouth. After doing each Asana, rest should be taken for a couple of seconds. After doing all the Asanas. Shavasana should be done last of all. This Asana will give soothing effect and remove all fatigue and strain, physical and mental.

It is essential to Evacuate the bowels before doing Asanas. Constipation is the root cause of many skin diseases. Constipation is an unnatural and abnormal conditional sedentary habits, indigestible diet, continual use of purgatives, weakness of spinal cord and other nervous disorders, lack of Exercise, insufficient intake of water, cause constipation. In fact it is futile to do Asanas when a person is suffering from chronic constipation. Following asan with curative and preventive effects are recommended for skin diseases.

#### 1. Sidhasana:-(Adepts Pose)

Comments: Siddha in Sanskrit means adept. Yogis and rishis have spoken high of this Asan. Great saints and sages like Nityamatta, Niranjana, kapali, Sabar used to meditate in this Asan for hours together. The knees of

the beginners may find it difficult to stay flat on the ground but by practice they can overcome this difficulty.



Fig 7.1: Siddhasana

### Technique:-

Sit on the folded blanket on the floor, bend the left leg and pull the foot in against the groin. Now bend the right leg and bring the foot across and insert its outer edge in the crence between the calf and the thigh of the left leg. The right heel should press against the public bone and both the knees should firmly touch the floor. Keep the palms of the right and left knees. Sit upright keeping the head and the back in a straight line. For variation, change over the legs regularly. Place the heels near the groin carefully lest the pubic bone should be hurt.

Benefits:- This asana develops mental potentiality, sooths the muscles, tones up the nervous system, supplies, sufficient blood to the pelvic region, cures syphilis and acne and keeps the body in poise and equilibrium.

#### 2. Simhasana:-(The Lion Pose)



Fig. 72: Simhasana

Comments: This pose appears to be odd and unpleasant but is very much rewarding and rejuvenating for throat, face and neck. In Sanskrit simha means a lion. This pose is dedicated to Narsimha, the man lion incarnate of Vishnu, refers to the famous legend in Indian scriptures. The modern yogis think that this is a fine asana for isometric contraction exercise. This Asana has two variations. The first given above follows the second which is more strenuous but has greater beneficial effects. Since in this Asana it becomes difficult to breathe in and out continuously so practitioners should practice this Asana for a couple of seconds only. This asana is held sacred by the best of yogis.

Technique: - Sit on the folded blanket with legs

stretched straight in front. Raise the seat, bend the right knee and place the right foot under the left buttock. Similarly bend the left knee and place it under the right buttock. The left ankle should be kept under the right one. Sit on the body on the thigh and knees. Stretch the trunk forward and keep the back erect. Place the right and left palms on the right and left knees. Stretch the arms straight and keep them rigid. Then spread the fingers and press them against the knees. Open the mouth and eyes wide and protrude the tongue out and down as far as you can. Gaze at the centre of the eye brow or at the tip of the nose. Remain in this pose for a couple of seconds. Breathe through the mouth.

Benefits:- This Asana will direct the flow of blood to the throat and larynx and will tone up the muscles of the throat and face. It can also remove the pimples on face.

3. Supt Vajrasana :-(The Spine Pelvis Pose)



Fig. 7.3 : Supta Vajarasana

Comments: This is one of the most common and popular postures in Yoga. It is well known for many therapeutic benefits., and is held in high esteem by many modern yogis.

Technique:- Sit on the folded blanket with buttocks on the floor between the heels in Vajrasana posture. Exhaling, lean back slowly and lower the elbows to the floor, support the trunk for a couple of seconds on the elbows and forearms. Fold and lock the arms above the head, lie for a couple of seconds in this posture and breathe slowly and deeply. Then sit up again supporting on the elbow and feel relaxed.

Benefits:- This Asana removes stiffness from the knee joints, ankle and thighs, increases thoracic mobility, improves circulation of blood and cures many parasitic skin Diseases.

#### 4. Padam Asana (The Lotus Pose) :-

Comments: Padamasana is a unique pose for meditation, worship and prayer. It is held in high esteem by the yogis. It was the pose adopted by great Maharishi Patanjali, Lord Buddha and other great saints and sages like Sandilya, Gheranda, Matsyendra, Bharava and Swatmaran. It is called Padamasana after the famous flower Lotus. This asana needs sufficient suppleness. Women and children can make a better attempt in doing this asana than men. Those suffering from stiffness of legs and knees and ankles will feel uncomfortable in this posture but regular practice will make them perfect.

Technique: sit on the folded blanket with your legs outstretched, bend each leg and place each foot on the opposite thigh, soles turned upwards. Pull the foot as high as you can. Keep the palms of the right and left hand on the right and left knees, touching the thumbs with tips of index fingers and gaze at the tip of the nose.

Keep the head, neck and spinal column straight and erect, and breathe slowly.



Fig. 7.4: Padmasana

Benefits:- It increases the psycho-physical energies. Improves circulation of blood, develops the mental and physical stability and cures acne, pimples and many parasitic skin diseases.

# 5. Hala Asana (The Plough pose) :-

Comments: In Sanskrit, Hala means plough, this asana must be done after Sarvagasana. This pose is named so because it bears close resemblance to a plough (tool). It is one of the few Asanas named after a tool. It is a part and continuation of Sarvangasan. Different theories for the promotion of health have been evolved from this asana by the yoga theraupists.

Technique: - Spread a folded blanket on the floor and lie flat on the back with arms straight, raise them slowly above the head. Only stomach abdominal muscles should

be used to raise the legs. Bend the trunk upward hips first and slowly lower the legs over the head till the toes touch the floor. Keep the legs straight. Now interlock the fingers and stretch the arms. The legs and hands are stretched in opposite direction. Breathe slowly without any strain, remain in this pose for a couple of minutes and return to the original position and relax.



Fig. 7 5 Halasana

Benefits: Halasana improves the functioning of the abdominal organs-kidney, liver and pancreas. It makes the spine strong. It cures connective Tissue disorders of the skin.

#### 6. Sarvangasana (Shoulder Stand Pose):-

Comments: In Sanskrit, sarva means all or entire and Anga means limb or body. Sarvanga means the entire body or all the limbs. This is one of the most powerful and popular asanas. By practising this asana, all parts of the body are benefitted. In this asana, circulation is directed towards the thyroid and parathyroid glands which play vital role in the promotion of health. The malfunctioning of thyroid gland can harm all other glands. Within a few days of practising sarvangasans, one will be conscious of its invigorathing

influence on the whole body. To derive maximum benefit from this asana, Halasana should be practised after this asana.

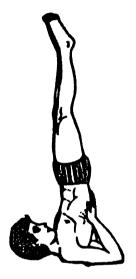


Fig. 7.6: Sarvangasana

#### Technique

Spread a blanket on the floor and lie flat on your back. Then slowly raise the legs up, lifting the trunk and hips vertically. The hips should be supported by two hands. Let the elbow rest on the floor. The chin should be firmly pressed against the chest. In this pose, the hind part of the neck should touch the floor and trunk and legs should remain straight. Remain in this pose for few minutes and breathe. Slowly and deeply and concentrate on the thyroid gland which is at the root of the neck. Return to the original position and relax.

Benefits: This asana has number of benefits. It rejunevates all organs of the body, strengthens spine, stimulates endocrine glands, tones up the nervous system, Improves circulation of blood and cures skin

diseases Dermatitis, Eczema, Lichenx planus, Acne and rosacea.

7. Mandukaasana (The Frog Pose ) :-





Fig. 7.7: Mandukasans

Comments: In Sanskrit, Manduka means frog. This asana when performed correctly, looks like a frog. It is also one of the easiest asana belonging to the leg-feet bending group of asanas. This asana is extremely beneficial for the circulation of blood to legs and feet.

Technique: On a folded blanket, sit in an easy posture, keeping the feet together. Separate the knees as far apart as you can without any pain, strain or jerk. Keep the big toes of both feet touching. Place the hands on the knees and remain in this pose for a couple of minutes and breathe slowly return to the original position and relax.

Benefits:- This asana is highly beneficial to legs, knees, joints, pelvis and perineum. It improves circulation of blood and cures many skin diseases like Bullons Eruptions, Eczema, Acne and disorders of the sweat glands.

# 8. Gomukh Asana (Face of a cow Pose) :-

Comments: "Gau" in Sanskrit means "Cow" and "Mukh" a "face". This asana is used for meditation, prayer and breath control. The asana when displayed correctly resembles the face of a cow.

Technique: Sit on a folded blanket on the heels, knees together and head, neck and spine straight. Bend the right arm, raise the elbow and lower the hand as far down the middle of the back without disturbing the upright posture. Bend the left arm and bring the left hand up the centre of the back until the fingers of both hands interlock. Breathe deeply remain in the pose for a couple of minute, unlock the hands and repeat the process in reverse manner. Return to the original position and relax.



Fig 78 Gomukhasan

Benefits: This asana cures sexual disorders, kidney trouble tones up the glands and improves circulation of blood. This asana checks the formation of calcium deposits at the shoulder joints and cures Dermatits, Bacterial skin Diseases and skin eruptions.

#### 9. Pawan Mukhasana:-

Comments: This asana is performed with both the legs. Like the previous one, this asana is very simple but effective. Persons having excess fat in the abdominal region may find it difficult to touch the chest with nose. They should do it with one leg only.

Technique: Spread a folded blanket on the floor and lie down straight facing the sky. Inhale and raise both the legs up, bend them from the knees, and hold them with both the hands and bring them close to the chest. Then raise the head up so that the face remains between the two knees. Exhale and breathe slowly, after

inhalation and exhalation, hold the breath and bring head, legs and hands to original position and relax.



Fig 7.9. Pavanamuktasana

Benefits: This asana cures gastro troubles and reduces hyperacidity. Moreover, this asana strengthens lungs and cures many skin diseases like pigmentation, toxic erythema, drug Eruptions and Eczema.

#### 10. Matsyaasana (The Fish Pose) :-

Comments:- The Matsya means fish in Sanskrit. The Sanskrit texts give justification that this asana can allow the locked legs down on the floor. Support the body with the hands and elbows. Lift the head and the shoulders and arch the back pressing the crown of the head on the floor forming a bridge in which the shoulders and back remain above the floor. Do slow and deep breathing and retain breath for a couple of seconds. Grasp the toes with both hands. Remain in this pose for a couple of minutes and return to the original pose and relax.

Benefits:- This asana strengthens the muscles and nerves of the neck and skin glands and pores. It tones up the entire nervous system and improves mobility of



Fig. 7 10 Matsyasana

the thorax and supplies sufficient blood to the pituitary, thyroid and parathyroid glands. This asana cures skin diseases like Impetigo, Sycosis nuchae, Erysipeloids, Erythema and Eczema.

#### 11. Dhanurasana (The Bow Pose) :-

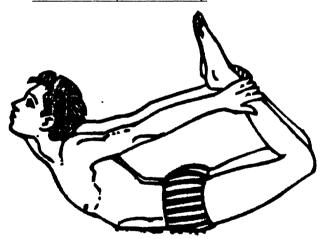


Fig. 7.11: Dhanurasana

Comments:- In Sanskrit, Dhanur means "a bow". This is a vigorous elaboration of Bhujangasanas. Abrupt jerky movement should be avoided in this asana. The beginners may find it difficult to take hold of the ankles

with hands. They can overcome this difficulty by constant practice and determination. This asana is also highly beneficial for women. The asana should not be practised by persons suffering from hernia, peptic ulcer, intestinal tuberculosis or any injury in the spine.

Technique:- Lie flat on the stomach and chest, flex the legs bringing the feet back towards the head. Raise the legs head and upper part of the body. While arching the back, take hold of your ankle with your right hand and left ankle with left hand. Breathe slowly and normally. Remain in this pose for a couple of seconds. Return to the original position and relax.

Benefits: This asana powerfully massages the abdominal organs and muscles and skin pores. It also reduces fat, energises digestion, sharpens appetite and cures skin diseases like acne, eczema, ringworm of the scalp and keroin.

#### 12. Mayurasana (The Peacock Pose) :-

Comments: In Sanskrit, Mayur means peacock. When performed well, this asan resembles a peacock spreading its tail. This asan belongs to the advanced group of balancing postures. It is of a gymnastic nature that needs a lot of muscular strength and coordination. This asan has a number of variations and poses. This asan should not be attempted by those persons who are suffering from hernia, high blood pressure and stomach ulcers.

Techniques: On a folded blanket kneel down, join the two arms together and rest and hands on the floor, palms down with fingers pointing towards the toes keep the hands firm. Bring down the abdomen slowly against the joint elbows. Support your body on your elbows. Then stretch your legs inhale and raise the legs together from the floor, remain in this pose for a couple of seconds.

Exhale while raising the body off the floor and inhale while lowering the body.

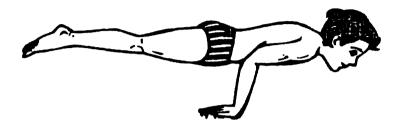


Fig. 7.12: Mayurasana

Benefits:- This asana improves the digestive system and circulatory systems. It also evacuates the waste matter from the Intestines and Eliminates toxins from the blood. This asana also tones adrenal glands, skin pores, skin cells and cures reactive skin diseases.

# 13. Garud Asana (The Eagle pose):-

Comments:- In Sanskrit Garuda means an eagle. This asan is difficult for beginners however with regular practice and patience, they can do it well.

Technique:- On a folded blanket stand upright, bend the left knee slightly and twist the right leg over the left leg so that the right instep is touched behind the left calf. The arms should remain crossed in front of the chest so that the left elbow rests on the right biceps against the elbow joint and the left twist is kept above the right twist in front of the face. Remain in this pose for 20 seconds and breathe slowly. Then repeat the pose balancing on the right leg and reversing the arms and the leg positions. Gaze at a visible white spot or point, come to the original position and relax.



Fig. 7.13: Garudasana

Benefits:-This asane strengthens and stretches the muscles tones up nerves, cells and glands and promotes, suppleness in the legs, knees, ankles., and improves circulation and digestion. This asana cures skin diseases like primary Erythroderma, Mycosis, Eczema and skin eruptions.

# 14. <u>Mool Badhasana (The Perineum Contraction</u> Pose):-

Comments:- This asana was also held in high esteem by some ancient yogis. The asana is one of the powerful, fascinating and popular meditative asanas having many therapeutic advantages, yogic believe that this asana stimulates the body main nerve centre. This asana belongs to the advanced group of asanas.



Fig 7 14. Moola Bandnasana

Technique: Adopt a sitting position on a folded blanket stretch the legs forward and bend the knees bringing the feet together at the perineum. Breathe slowly and comfortably. Raise the body on the heels so that the heels press the perineum. When you feel strain in the legs, come to the original position and relax.

Benefits: This asana tones up all the sexual and eliminative organs. It strengthens the muscles, cells of the feet, legs and thighs. It also improves circulatory system and digestive system and cures many Bacterial and virus skin diseases.

# 15. Badha Padamasana (Bound Louts Pose) :-

Comments:- Like Padamasana, it is also recognised as the classic yoga pose. It is one of the basic but highly beneficial asanas and is in continuation with Padmasana.

Technique: On a folded blanket adopt the pose of Padmasana. Cross the arms behind the back and grip the toes of the right foot with right and the toes of the left

foot with left hand. The chest should move forward. Breathe slowly and freely. Remain in this pose for a couple of minutes. Come to the original position and relax.



Fig. 7.15: Baddha Padmasana

Benefits: This asana stimulates the nervous system strengthens the muscles of the chest, spine and legs. It also strengthens the glands, cells and pores of the skin. It cures the skin fungus diseases, dermiatitis and eczema.

#### 16. Parvat asana:-

Technique: On a folded blanket, sit in Siddhasana or Sukhasana or Padmasana posture. Raise the hands up and inhale breath. Retain breath for a couple of seconds and exhale breath slowly and rhythmically. While exhaling breath bring your arms down slowly.

Benefits: In this asana, the power lies in the retention of breath. This asana cures chronic constipation, piles, obesity and sluggishness of liver and belching. It also improves circulation of blood and strengthens the skin



Fig. 7.16: Parvatasana

cells, pores and layers. It cures many skinmalformations, Hair disorders and diseases like eczema, erythema, acne, pimples and skin Infections.

## 17. Yad Tul Asana (Semi Bridge Pose) :-

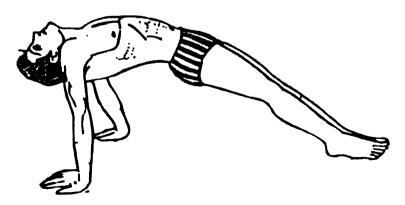


Fig. 7.17: Yad Tul Asan

Technique:- Lie down on a blanket with face upwards raise the legs and hands and maintain balance of the body on your legs and hands. While raising the body upwards inhale air and retain breath for a couple of seconds. Exhale breath slowly and rhythmically while keeping the body down. The power of this asana lies in the retention of breath. Relax for a couple of minutes.

Benefits:- This asana makes the spinal cord supple and elastic. It invigorates the nervous system, improves digestion, massages the skin pores and cells, pancreas, glands and pelvic organs. It cures skin eruptions psoriasis, pityriasis rosea, eczema and many parastic skin diseases.

#### 18. Shavasana (The Corpse Pose) :-



Fig. 7.18: Shavasana

Comments: Shavasana is very Important, powerful and popular asana. Shav means corpse or dead body. This asan is also called "Total Relaxation Pose". Today, when the stress and strain of life are increasing rapidly shavasana is the only asana that provides right relaxation to our Psycho-physiological system.

Technique:- On a soft carpet or blanket lie full length on back with arms away from the body facing upward and feet slightly apart. Close the mouth and eyes and withdraw the consciousness by stages beginning with the feet, the ankles, the abdomen, the chest, the neck and the face. Finally keep the mind free. Start breathing slowly deeply and rhythmically. Inhale breath and retain it for a couple of seconds increase the period of retention of breath gradually. Keep the body motionless like a dead body. The technique of this asana must be followed carefully. Slow and longer breathing is necessary in this asana.

Benefits: Shavasana is an Excellent asana for complete physical and mental relaxation. Tension, Irregular and faulty breathing can cause many diseases. This asana removes all mental tension, stress, strain and hypertension. It restores energy and cures many heart ailments nervous disorders and depression. This asana when performed correctly gives rest, peace and tranquility and relaxation to the body and mind.

# PART-VII HYPERTENSION

# Stress, Depression and Hypertension

Where is life, We have lost in living,
Where is wisdom, We have lost knowledge,
Where is knowledge, We have lost in information.

- T.S. Eliot

This is an age of stress and strain. Most people are under stress but they know not the cause of stress. Stress in the popular language can be defined as an Excessive demand on physical and mental energy. Resulting in anxiety, anger, distress, fear, irritability, and frustration. This in turn causes an increase in the secretions of pituitary, adrenal and thyroid harmones. All these cause a rise in the Blood Pressure. Many causes can be attributed to stress. Death of a nearest and dearest one. divorce, Retirement from work, detention in jail, Death of a close friend, deferred marriages, pregnancy, Deplorable behaviour of a family member, separation of son from home. Differences with spouse, major personal injury or illness, sexual disorders and difficulties, Bankruptcy, changing to a different line of work or profession, Loss in business, Demotion or Termination in service, conflict with in-laws, wife working outside home, failure in Examination, major change in living conditions, Trouble with the boss, change in residence, taking loan for purchasing a car, T.V. or Freezer,

sleeplessness. These are some of the common causes that can cause stress. In fact, stress is becoming an integral part of our life. Be it a house wife, a working woman, a professional, a government employee, a farmer, a business Executive, or a student. Today, in every walk of life, we undergo a little or big amount of stress. A stressful life style resulting from day-to-day problems of finance, Education, family and Inter relationships, work travel, Insecurity of job...all lead to a degree of stress that can result in slow and steady damage of our cardiovascular system.

Depression is very commonly used term to describe disappointment, temporary period of feeling low and mild psychological upset by a large majority. In mental health, depression is a disorder with many manifestations. Unipolar depression is predicated to become the second most prevalent illness by 2020. This type of depression is also described as Endogenous depression. Major depression or major affective disorder. It could be precipitated by a minor stress or may not be preceded by any cause. In a recent study across many countries including India conducted by the World Health Organization (WHO) diagnosable mental illness were found to be present in 20-30 percent of patients. Depression was detected to be the highest prevalent among them. Many signs and symptoms could be attributed to depression. Lack of concentration on the part of an Individual. The Individual finds it very difficult to go through even the headline of a newspaper, takes longer to read a page in a book or concentrate on his favourable activities which he could execute comfortably earlier. Errors and delays in work are commonly noticed. Irritability is also an early feature. Small errors by close or members of the family provokes friends disproportionate reactions. Snapping back on minor Irritation towards people around becomes noticeable.

When this change of behaviour is pointed out the person does acknowledge it as wrong but expresses helplessness and inability to rectify it. If one is awake much before his schedule wake up time and cannot sleep further inspite of all normal efforts it could mean that he or she is heading for an episode of depression. Early morning Insomnia is a characteristic feature of this Illness. Bad dreams may be associated such as that of blood, death accident, fire drowning etc. Another common quote one hears from a depressive person is "Put off the T.V. and leave me alone". Inability to tolerate day to day noise such as that of T.V. children playing, surprises everyone around. Difficulty in getting off the bed, to work. Laziness in the morning which at times improves as the day progresses is a signal of depression sloppiness, untidyness not caused due to physical illness, can be announcements of an impending episode of depression. Lack of interest in normal pastime activities like seeing a movie, playing sports, talking to friends is an early sign of depressive blues. Another symptom is hunger for food is less and even favorite dish does not stimulate the palate in the absence of any physical cause. Appetite and Interest in sexual activities decreases very early in depression. All these symptoms may be seen in normal people as well, but then they are transient and temporary. If it persists for a couple of weeks, can make a diagnosis of depression. There are specific marked attitudes when the depression sets in an all round feeling of sadness which is pervasive is the hallmark symptom of a depressed person. This can be associated with either withdrawn or an agitated behaviour. The feelings of worthless and hopeless are predominant. Such people feel that they are not fit to live in this world. When one is in the thick of depression, one feels disproportionately guilty over small errors of the past. He or she broods over the past events. All such thoughts invade the person's mind repeatedly and render

him or helpless and miserable. Ideas of self-harm occur to 50 percent of those suffering from depression. Some may express that there is no point in living while others may have suicidal ideas. Depressed individuals feel very tired without any physical case. They are easily fatigued and complain of lack of energy. Physical aches and pains may be the only complaints of depressed people. These pains are not caused by any physical Illness. Depression and alcoholism may Co Exist in the same person. Some depressive also self medicate with alcohol to feel good resulting in disastrous complications. Depression can come in cycles lasting for days, months or years. These cycles may alternate with mania (where one gets elated, euphoric, gregarious, hyper Excited etc.) also this Illness is termed as manic depressive Psychosis or Bipolar disorders. Depression seen following pregnancy is termed post partum depression. During menopause and just few days prior to the date of menstruation also the already stated symptoms of depression might appear. Depression can occur in children's behaviour such as refusal to attend school without any specific reason, stealing truancy, clinging behaviour, aches and pains, bed-wetting.

Depression is a common disorder in psychiatry and is an old as mankind. In the absence of specific reasons it is difficult to pinpoint an organic cause of depression. Depression as disorder is often known as mood disorder. It shows itself in the form of sad feeling. Because it evokes reactions of sadness and disappointment. The cause of depression is understood in terms of environmental problems and difficulties. By large, sufferers of depression and their relatives search for causes and solutions in the environment. It is not easy to say that only environment problems or only physiological problems are responsible for occurrence of depression. With recent advances in Biological

psychiatry it is now possible to understand the role of a various physiological factors including neurochemicals in depression. However, depression is a multicausal disorder with Biological, Psychological and social factors operating together. Many people develop this disorder often because of biological vulnerability. In fact these people, more often than not, develop frequent bouts of depression. The most common one is a family history of depression. The risk for an individual is 25 percent to 40 percent. If both parents are affected by depression. However some dramatic advances in brain biochemistry have helped in understanding the occurrence of many mental disorders. The dysfunction of biochemistry have helped in understanding the occurrence of many mental disorders. The dysfunction of biochemistry in brain which causes depression is being studied extensively in terms of neurotransmitters imbalance. Today's urbanized life style has created more stress, interpersonal loss, disappointments. There are various studies that explain the relationship of these factors to depression. In developed countries, studies show that working women experience depression more often than nonworking women. In a developing country like India, unemployment, poverty, gender discrimination, Illiteracy, corruption, generate all sort of problems and stressors. There is poor social relationship resulting in less opportunities to nurture and to be nurtured. Then there are some specific traumatic and unpleasant life situations, events like divorce, loss of job, Illness, bereavement and marital disharmony, leading to depression. Other Important stressful factor is loss of mother or father or both in early childhood stress is not always a problem for everybody. Many people experience the same life situation, but not everybody develops depression. Those who have personality problems like dependency immature coping styles, unassertivenes are more prone to depression. It has been found that those

who are vulnerable to depression invariably have a pessimistic out look towards life. These people lack energy and effective coping styles. Their style of thinking is illogical and emotions are inappropriate. The emotional disturbances are in the form of guilt and anger. Suicide is the most devastating complication of depression which can be prevented by early detection and treatment. Suicide does not choose its victim. Intelligence, education, race, caste, class has little influence, though women, unmarried Individuals, those who lack social support and alcoholics are more prone to attempt suicide. One problem is the feeling of shame associated with suicide attempt. In many cases families hush up the matter and do not seek help from a psychiatrist. This can be dangerous and infact lead to a successful suicide attempt. Depression is a treatable illness and complications such as suicide can be prevented by yogic treatment. It follows no regular course and has no particular or specific outcome. It may be temporary or permanent, mild or severe, acute or chronic. There is no clear line of distinction between normal and abnormal in depression. It is a typical emotional reaction with distinctive characteristics. The roots of these characteristics exist in everyone. Depression represents a whole class of disorders whose chief features are a reaction to a sense of loss. The reaction is typified by an emotional or psychic state which is expressed by a loss of Interest in the world outside. The responses to a senses of loss are part of a series of integrated sequential psychic phenomena which are best understood collectively as a loss-complex. The characteristic pathological forms of depression only begin to appear in puberty.

The occurrence of psychic depression is as wide spread as anxiety and hence it may be found to a greater or lesser degree as an accompaniment to all other emotional and bodily disorders.

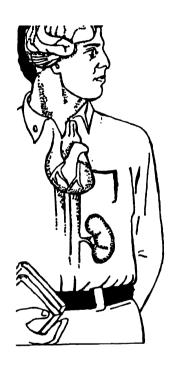
Blood pressure is the force exerted by the blood against the walls of the blood vessels. It is created by the pumping action of the heart. For an understanding of the term, a brief consideration of the condition under which the blood circulates in the body is necessary. The blood passes from the heart throughout the body by way of a system of tubes, blood vessels that eventually return the blood to the heart. This movement through the various vessel circuits is so rapid that a given drop of blood usually requires less than one minute to complete a circuit from and back to the heart. A single tube leading from the heart, divides into smaller and smaller vessels. the arteries. Finally, the smallest arteries branch into the most minute blood vessels, the capillaries. Through the main walls of capillaries, the blood supplies the body with oxygen from the lungs and food materials from the Intestine. The blood is moved through this system of vessels chiefly by the Heart which by its rhythmic pumping action creates within the arteries pressure that is gradually spent in moving blood through the vessels back to the heart. The blood pressure is, of course, greatest in the arteries and least in the veins. In common medical usage, however, blood pressure means the pressure of the blood in the arteries and specifically the pressure in the main artery of the arm where it is usually measured. The blood pressure varies from on individual to another and in the same person from time to time. Thus it is lower in children than in adults and increases gradually with age. The blood pressure of women is slightly less than that of men. It is slightly increased in those who are overweight. During sleep the pressure decreases slightly., during exercise it is increased. Like wise, rise in pressure frequently occurs during emotional excitement. When the blood pressure remains permanently above the normal range, the condition is known as high blood pressure (Hypertension). High blood pressure and hardening of the arteries are the principal causes of Heart and kidney disease in later years. While the exact cause of the common form of high blood

pressure remains unknown, there is evidence that the nervous system the endocrine glands and the kidney are involved In some way these organs cause constriction or narrowing of the smallest arteries of the heart. As a result the heart must pump more forcefully to move blood the narrowed vessels into the capillaries, thereby causing the blood pressure.

Low Blood pressure (Hypotension) means a condition in which the pressure remains permanently below normal without any evidence of disease. Persons with this condition have a longer life span than those with normal blood pressure because they are less likely to develop hypertension.

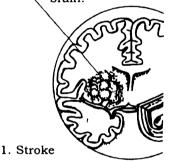
Hypertension is one of the commonest causes of disability and death. Its cause is unknown in most instances, although in a few cases certain kinds of kidney disease may be responsible. The mechanism of death from high blood pressure is usually one of three varieties: heart failure, a vascular accident in the brain, or kidney failure. High blood pressure is perhaps the most common single disease of mankind. It is slightly more common amongst the urban population as compared to the rural population. It is estimated around 15% of the adult population beyond the age of 30 years and 20% of beyond the age of 50 have high blood pressure. Most people are unaware of this disease and it comes to notice only when a person goes to the doctor for check up. Stress and Depression can increase the blood pressure. High blood pressure has been called a "Silent killer". The longer it persists, the greater is the damage done without the person being aware of it. The only way of ensuring that a rise in blood pressure is detected well in time is to have regular check up. The large majority of Individuals over 90% who have high blood pressure do not have a specific cause for it. That is why it is called "Essential Hypertension"

#### Complications of Blood Pressure



When the Silent Killer Strikes

Stroke results when arteries in the brain become blocked. Without blood and the oxygen and nutrients blood carries brain tissue dies and you lose the functions controlled by that part of the brain. Stroke also happens when too much pressure bursts bloo vessels in the brain





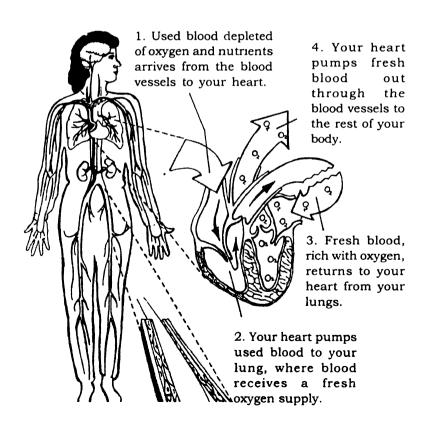
2. Blindness

Blindness or impaired vision occurs when tiny blood vessels in the back of the eye rupture or become blocked, damaging the surrounding eye tissue.

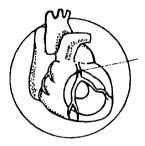
#### Working of Heart

#### Your Heart: A Nonstop Pump

Twenty-four hours a day, seven days a week, your heart faithfully pumps away, sending oxygen-and nutrient-rich blood through your body. A strong, fist-sized muscle, your heart pumps blood when it contracts, squeezing blood out from its four chambers into the network of blood vessels.



#### Complications of Blood Pressure



#### 7. Heart attack

Heart attack occurs when arteries supplying to the heart muscle become blocked. Part of the muscle "starves" and dies, and the heart pumps less effectively.



Heart failure results when the heart pumps too hard for too long, trying to keep blood flowing through the body. Like an overused rubber band. the heart's muscles slowly lose their elasticity and the heart expands.



### 5. Kıdney failure

Kidney failure happens when tiny vessels in the kidneys become blocked. Because the kidneys shrink and become irregular, they can no longer cleanse the body of wastes. As kidney failure increases, the body is slowly poisoned. Kidney problems and high blood pressure also result when the arteries to the kidneys become narrow, restricting blood flow.



#### When B.P. is Too High

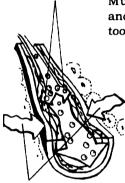
#### Changes in the Arteries

A wide artery opening lets too much blood flow through.



Arteries may have wide opening. If too much blood flows through, it hits the artery walls forcefully. This is a frequent reason for high blood pressure in young people.

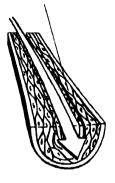
Plaque accumulates inside the artery.



Fluid builds up in tissues surrounding the artery.

Fluid and plaque may accumulate. Tissue may swell with fluid, squeezing the artery. Plaque (fat and cholesterol) can collect inside the artery, making it narrow or even blocking it.

Muscles thickening and make the opening too narrow.



The artery walls may thicken. The vessel's muscular lining gradually becomes thicker and less stretchy, causing the opening to narrow and blood flow to become restricted or blocked.

These changes, due to aging, diet, smoking, or heredity, make it harder for blood to flow freely. As a result, your blood pressure increases

#### **Blood Pressure Monitoring**

#### A. Ouick Test

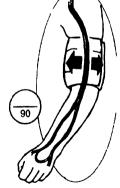
Having your blood pressure checked is painless, inexpensive, and quick. It can be done at health fairs, your employer's medical department, or a doctor's office. Self-monitoring machines are available to use at pharmacies and stores. You can even check your blood pressure at hom.

140

2. The cuff is slowly deflated. The first sound heard through the stethoscope is the pressure created as your heart pumps (systole).

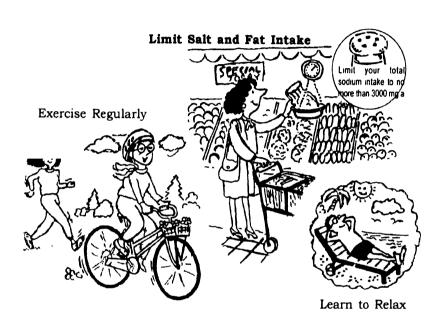


1. A cuff is inflated around your arm to temporarily restrict blood flow. A stethoscope is placed between the cuff and your arm.



3. The cuff continues to deflate until no further sounds are heard. This is the pressure in between pumps (diastole).

### Life-Style Modification





## **Hypertension Related Diseases**

A. Diabetes— Diabetes is one of the oldest diseases known to man. Records date back to 3000 B.C. The word "Diabetes" was provided by Roman physician Aretaes in A.D. 50. The number of Diabetic patients is increasing rapidly. Diabetes mellitus is a disorder in which the body fails to make proper use of sugar. An Excessive amount accumulates in the blood and often passes in the urine. Normally, insulin helps to burn sugar and provide energy. This is a harmone secreted by the pancreas which is a gland situated in the upper abdomen. When the pancreas fails to produce enough insulin, the person cannot utilise sugar, and his body chemistry is upset. Insulin is then injected to make up for the patient's deficiency. The typical symptoms of Diabetes are absent in early or mild cases. Severe disease may cause copious urination, excessive thirst and hunger, tiredness, weight loss, blurred vision and skin infection. Elevated arterial blood pressure and established hypertension are commonly found in association with diabetes mellitous. As hypertension constitutes a major cardiovascular risk factor, it is essential to treat elevated blood pressure as part of a "multiple risk factor Intervention strategy" in diabetic patients. In diabetic patients, a mean arterial blood pressure exceeding 160/mm Hg systolic and 90 mm Hg diastolic blood pressure at repeated measurements is compatible with established

hypertension. In these patients, hypertension is also signified by a mean arteria pressure greater than 107 mm Hg.

The WHO diagnosis of Hypertension is separated into various stages (1-3) (Table :- 2.1). These stages classify the presence and degree of target-organ damage, such as nephropathy and retinal changes as a consequence of hypertension.

Table 2.1: WHO stages of Hypertension

	resolution of the property of			
Stages	Clinical features			
1.	Elevated Blood pressure No target-organ			
	damage.			
2.	Elevated blood pressure Left ventricular			
	hypertrophy retinopathy. Nephropathy.			
3.	Elevated blood pressure severe target- organ damage. (e.g., retinal hemorrhage)			

Incidence and Prevent data suggest that hypertension could be 1.5-2 times more prevalent in diabetic Individuals than others. In patients with primary hypertension the prevalence of 1 GT or NIDDM is higher than in others. About 10% of hypertensive diabetic patients have primary hypertension that is not casually related to the diabetes.

**B. Conjestive Heart Failure**— The term Heart Disease actually applies to a number of different illnesses that affect the circulatory system — the heart and blood vessels. A more exact name is cardiovascular diseases cardio (Heart) and vascular (blood vessels). The circulatory system is a complicated mechanism. The heart itself is the strongest, toughest muscle in the body.

Yet, like all machinery it can sometimes break down. When any part of the circulatory system is impaired a part of the body does not receive the blood it needs and thus is damaged. The damage may occur in the heart in the brain, the lungs the kidneys and the skin. Hypertension has been a major risk factor for heart failure. Before the advent of antihypertensive drugs, heart failure was a common complication of hypertension and in some cases exceeded stroke and coronary heart disease as a cause of death. Now coronary heart disease appears to be the most common complication of hypertension. The research data shows that blood pressure usually falls as heart failure develops, and a previous hypertensive state may remain unsuspected. Like wise, arterial pressure falls in some patients after acute mycardial infarction and when heart failure subsequently develops, prior hypertension may remain occult. Silent or unrecognised myocardial infarction is relatively common in hypertensive patients, so those presenting with heart failure may show little or no evidence of prior hypertension. The emphasis in the field of hypertension and heart failure has been on systolic left venticular dysfunction. There is increasing evidence that diastolic heart failure alone or in combination with systolic dysfunction can occur in hypertensive patients.

C. Hyperlipidemia— In the recent past, a cardiovascular risk factor syndrome has been reported in which are clustered obesity, hypertension, glucose intolerance and compensatory hyper insulinemia. Disturbances in level of plasma lipoproteins are known to occur in hypertension either as a primary defect and secondarily, as a result of anti-hypertension, a typical pattern of dyslipidemia is seen studies of hypertensive patients receiving antihypertensive treatment report the characteristic pattern of dyslipidemia, but in many cases, the pattern seems to be influenced by the antihypertensive drugs. This pattern, known as secondary

dyslipidemia, consists of high triglyceride and low HDL, cholesterol levels. There is a tendency in some patients to have a cluster of both hypertension and dyslipidemia. This is known as dyslipidemic hypertension. It is a well known fact that diet, Exercise, smoking habits influence lipid levels directly or Indirectly. Stress can cause disturbances in blood pressure levels. Moreover, Betablockers and thiazide diuretics have an adverse influence on lipid levels, although this is dependent on the dose of the drug and the duration of the treatment.

- D. Peripheral Vascular Disease- Peripheral Vascular Disease (PVD) of the lower limbs is a disease which lesions. Provoke symptoms of atherosclerotic claudication Ischemic pain or trophic lesions in the legs. Although at first glance PVD does not seem to be widespread disorder compared with essential hypertension. The clinical symptoms of claudication can be marked in the elderly by conditions that prevent the patient from walking. These conditions include severe angina, heart failure, cerebrovascular accidents. A number of risk factors have been associated with PVD. These include age, gender, family history Diabetes mellitus, smoking, hyperlipidemia, obesity, physical inactivity, and high blood pressure. Systolic blood pressure (SBP) seem a to be more significant than diastolic (DBP) to influence claudication. There has been much speculation and little clarification regarding the mechanisms by which hypertension accelerated the atherosclerotic process at selective sites e.g., lower limbs, carotid artery and coronary arteries. Recent advances in molecular Biology provide greater insight into the underlying mechanism of these changes.
- **E. Stroke** Stroke implies variety of things but in general term refers to sudden brain damage caused by a hemorrhage of a blood vessel in the brain, a thrombosis or clot formed by hardening of the vessel walls, a clot

that gets into the blood stream from another diseased or injured part and blocks a brain artery. The brain area affected stops functioning. Stroke affects not only older people, a high percentage of the death and disability it causes hits people between the ages of 30 and 65. In ancient times, victims of a stroke were thought to have been "Struck down by God". The seriousness of brain damage from strokes can be realised by comparing strokes in the brain with other parts of the body. Stroke is the third leading cause of mortality and the major cause of medical disability. Hypertension is the most common cause of stroke.

**F. Renal Disease**— The importance of the kidney in the regulation of blood pressure cannot be underestimated. Any increase in blood pressure in renal excretion of water and salt. Any alteration in the mechanisms regulating renal sodium excretion could provoke the development of arterial hypertension. In human beings, the kidney participates in the genesis and maintenance of most forms of arterial hypertension. In turn the organ suffers the consequences of increased blood pressure.

Hypertension can itself lead to terminal renal failure or can accelerate the destruction of renal parenchyma leading to primary and secondary forms of renal disease. In fact 90 percent of patients with end stage renal disease present with hypertension. Sodium retention is the main cause of an increase in blood pressure in most renal disease. Retention of sodium is usually the consequence of a defective capacity of the functioning nephrons to excrete the amount of salt normally ingested through the diet. The kidney can also change the level of blood pressure through other mechanisms that influence the resistance arterioles. It is an established fact that the cardiovascular system is affected profoundly by the presence of advanced renal failure. There is no doubt that blood pressure control is needed in order to

avoid renal damage in essential hypertension and to slow the progression of chronic renal failure in patients with primary or secondary renal disease.

**G. Endocrine Disorders**— Hypertension is a common finding in several endocrine disorders. Aoromegaly is the clinical result of an increased production of growth harmone most commonly from a growth harmonesecreting tumour in the anterior pituitary gland. Other very rare causes of an increase in growth harmone production Exist, such as certain types of cancer. Hypertension is frequently found in patients with hypothyroidism. The raised blood pressure is usually caused by an increase in peripheral resistance. The Ischemic heart diseases are common with patients having long standing hypothyroidism. Hyperthyroidism may be accompanied by an increase in systolic blood pressure when cardiac output is elevated. The incidence arterial Hypertension in patients hyperparathyroidism is double than other persons. The underlying mechanism seems to be related to the constant hypercalcemia that increases peripheral vascular resistence and vascular reactivity to sympathetic stimulation. The presence of hypertension accompanied by hypokalemia and metabolic alkalosis is the most important finding indicative of primary hyperaldosteronism.

There is another disease known as cushing's syndrome which develops secondary to an excessive endogenous production of cortisol. This production may be dependent (Cushing's Disease) or Independent (Cushing's syndrome) of adrenal corticotropic hormone. In the former the disease may be of pituitary origin. Hypertension is present in about 75% of patients with cushing's syndrome.

H. Left Ventricular Hypertrophy— Left Ventricular Hypertrophy (LVH) occurs in 35 percent of all hypertensive patients. LVH is the first step toward the development of overt clinical disease such as congestive heart failure and Ischemic heart disease. LVH represents an important risk factor for cardio vascular mortality. independent of casual blood pressure. LVH detected by E.C.G. increases the risk of coronary heart disease, stroke and heart failure. The echocardiographic technique has shown that the geometric adaptation of the left ventricle to increased cardiac load may differ from patient to patient. The three variations of adaptation are concentric remodelling concentric hypertrophy and eccentric hypertrophy. Arterial blood pressure is usually considered the most powerful determinant of LVM in hypertension. LVM correlates poorly with casual systolic and diastolic blood pressure. Much attention has been paid recently to the importance of day time and night time values of blood pressure. The prevalence of LVH increases considerably with age. This trend has been observed not only in hypertensive patients but also in normotensive Individuals. Long-standing LVH leads to Impairment of contractile function with progressive dilation of the left chamber of Heart and finally to the development of congestive heart failure.

## Causes of Hypertension

Time is out of joint, O! cursed spite Ever I was born to set it right.

- Shakespeare

Today, as we confront history's most complex economic and social problems., a great hiatus exists between. What we profess and what we are, what we say and what we do. The unhealthy and polluted atmosphere of our society has been the cause of great concern. Not a single day passes without an event of anxiety, the shooting prices, Increasing unemployment both in rural and urban areas, the Indiscipline, population explosion, regional Imbalances, rampant corruption, free operation of black money, expensive election system, defective education system, bureacucratic delays and hurdles, Disintegrated families, Broken marriages are the major causes of the existing unrest, violence and agitations. We are living in an age of explorations, Explosions and paradoxes. We have conquered the unconquerable and achieved things beyond the wildest dreams of our ancestors. Science has changed our world into a place of abundance and plenty. But the lust for money has hardened our hearts, silenced our scruples and

corrupted our moral sense. We are hardly conscious of the fact that the pace of Biological degeneration is fast accelerating. Dishonest pretences and disco influences. We are also living in a world of stress and strain, struggle and strife. Everybody seems to be in a hurry in this age of anxiety. If you are an average busy man or woman, coping with just routine problems, your day is too short. You rush to work in the morning and return at night fighting your way through crowds, and boarding buses. Your daily schedule on the job or in the home is so tight that at the end of the day you are up against so many pulls, pressure and complications. Bills are to be paid, Expenses budgeted, your life partner and children bring their problems to you, the household affairs absorb all your energy. Your family and official life makes endless demands on your emotional and physical resources. In your official life, you are up against so many complications .... There are delays, disappointments, professional rivalries, misunderstandings, errors, hatred greed envy, egotism, Exploitation, jealousies, fear and similar minor things. Aggressive living is the order of the day. Opportunities at various levels of society, aided and abetted by criminals, and partners in crime are holding the strings of power and wealth. Different people have different ways of responding, acting and reacting to all these pressures, situations and problems. In many cases of hypertension, the cause is unknown. But certain causes like Art of living, abnormalities, Dietary factors and psychological factors can give birth to Hypertension.

### 1. Behavioural Changes, Smoking.

Smoking affects the heart and blood vessels. Nicotine, if injected or taken in tobacco smoke can constrict the small arteries. Smokers also die more often from coronary heart disease. Smoking constricts the blood vessels leading to a rise of B.P. It also affects the lipid status,

increases central obesity which may be involved in worsening of insulin resistance. The stroke and coronary diseases may increase with smoking.

#### 2. Alcohol and Alcoholism

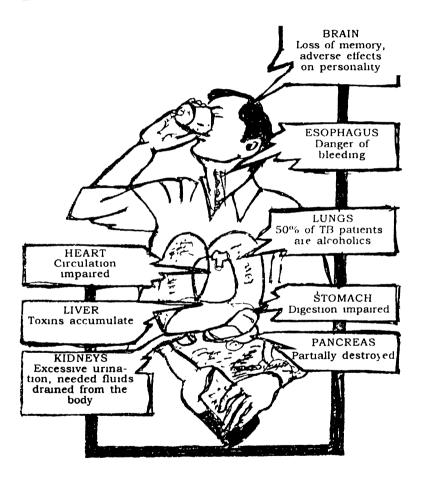


Fig 3.1: Effects of Alcohol

Alcohol is a top killer and produces tragic consequences in innumerable ways. Its physical and

mental effects are traumatic and poisonous. Alcohol is easily absorbed from the digestive tract into the blood stream and is quickly distributed throughout the body. It affects nearly all the cells particularly those of the brain. As the concentration of alcohol increases, more and more centres of the brain are affected. When the alcohol concentration reaches about 0.4 percent (430 to 770 ml.). It depresses the entire area concerned with perception and the drinker falls into a coma. Finally at a level of about 0.7 percent (800 to 1240 ml.), the centres controlling the heart beat and breathing are deeply depressed and the person dies, By the frequent and long period of drinking, the drinker is dehydrated and in dire need of food and water. He also needs medication to settle his inflamed stomach. As a result he suffers from nausea. headache, heartburns thirst tremors, delirium, hallucination, convulsions. Chronic alcoholics may develop number of physical disorders and deformities, excess of alcohol can damage pancreas and reduce the Insulin production which can cause diabetes. Moreover, drinking can develop hypertension (High blood Pressure). The person may fall prey to Heart attacks and strokes.

### 3. Physical Activity

The world is too much with us. We have no time or mood to enjoy the beautiful sights and sounds of nature. Modern man has become lazy and lethargic. He has no time for doing physical exercise. The incidence of hypertension is low in people who maintain a high degree of physical activity. The risk of developing hypertension is 40% greater in persons who do not do any physical exercises. Physical exercises such as brisk walking, yoga and playing games have beneficial effects and can maintain the blood pressure.

### 4. Obesity

Obesity is caused due to the disturbances of some of the endocrine glands, like the thyroid, pituitary and the

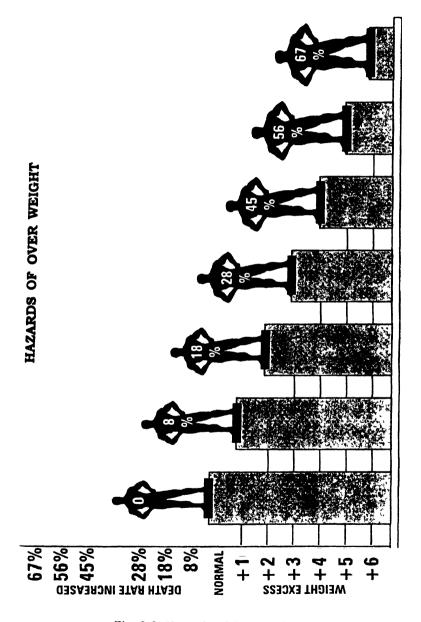


Fig. 3.2: Hazards of Overweight

sex glands. In most cases obesity is the direct result of a life of ease and over eating. Medical experience strongly suggests greater risks for overweight persons in respect to most of the diseases and disorders. Although over weight and obesity are not the same., most over weight persons are obese. Psychological (emotional) factors are operative in every person whether he is obese or not. An increased body weight or obesity has a great impact on Blood pressure. The caloric restriction may influence in reversing this process.

#### 5. Diet

The diet plays an important role in maintaining blood pressure. The diet rich in plant fibres either alone or with a low fat, low sodium can lower the BP in hypertensive patients. The more intake of diet rich in plant fibres or fats raise the blood pressure.

#### 6. Caffeine

Medical evidence suggests that caffeine contained in two cups of coffee may rise the blood pressure by 5 mm Hg in infrequent uses of caffeine. The B.P. does not rise in habitual users, indicating a phenomenon tolerance in them. It is also observed that there was no effect on BP when hypertensive abstained from coffee.

### 7. Narcotic Drug

There is psychological or sometimes a physical dependence upon the effects of the drug. Generally these drugs which cause psychological dependence are termed as habit forming and those drugs which cause physical dependence are called addicting. Since psychological and physiological reactions are closely related. Psychological dependence rests upon a state of Euphoria which a narcotic drug creates. When heroin, opium are used frequently they create craving for the drugs which raises the blood pressure in particular and

proves a hazard for the health. The action of cocaine on the brain is very powerful., a single injection may cause serious: troubles of the function of the brain. The prolonged abuse of drugs may affect the spinal cord and cause convulsions. By the regular use and abuse of drugs, will power diminishes, capricious temper, Irritability, obstinacy, nervousness, Insomnia, and mental disorders are developed which in turn can raise the blood pressure.

### 8. Deficiency of Vitamin C

The story of the vitamins .... their discovery, their positive functions in maintaining health is fascinating. Vitamins are one of a group of organic substances present in minute amount in natural food stuffs which are essential to normal metabolism and lack of which in the diet causes deficiency diseases. Asorbic Acid (Vitamin C) is a white, crystalline compound which dissolves readily in water. The most important function of the Ascorbic Acid is to control which it exercises on the ability of cells to produce inter Cellular material. In other words vitamin C is like a binding which holds the cells in proper relation to each other and to the fluid which bathes and nourished them. There is an inverse relationship between. BP and plasma vitamin C also lowers the BP in hypertensives and diabetics.

#### 9. Misuse of Rest and Relaxation

Modern man feels tense, over wrought, nervous and anxious. He says "Yes, Relaxation is fine but I haven't the time". In the hours of leisure and rest, he takes recourse to drugs leisure and rest, he takes recourse to drugs pills, tranquillisers and beverages which give him temporary relief but they prove disastrous to his mental and physical health. He misuses the hours of rest and relaxation by sitting in coffee houses, and clubs, puffing a cigarette and having some rounds of whisky. All these

things prove disastrous to his health and contribute in increasing hypertension. The necessity for relaxation with yoga is far more pressing than it ever was.

#### 10. Salt Restrictious

It has been established that a high consumption of salt (sodium chloride) raises the blood pressure and low consumption decreases it. The effect of salt does not only depend upon the common salt that we add to our food but also upon the sodium chloride that is naturally present in foodstuffs. Four decades back. When we had no adequate medicine to lower the blood pressure, the doctors would advise salt-free-diet to their patients.

### 11. Calcium and Potassium Supplements

It is also established that low potassium content in the food elevates the blood pressure. It is important to maintain balance between sodium and potassium. A diet rich in sodium and poor in potassium is likely to elevate the blood pressure. Potassium is contained in green vegetables and fruits. The relationship between the calcium intake and the BP is still debatable. Some studies showed a little fall in BP while there was no change in others, the calcium intake has also been found to be less among hypertensives as compared to normotensives.

From the heart, blood surges through the aorta to the arteries throughout the body. From the arteries, smaller vessels called arterioles branch out. From the arterioles, the blood flows to the smallest vessels, the capillaries. The capillaries carry the blood to the Individual cells of the body where oxygen and other chemicals are delivered and waste products are collected. The capillaries then connect with venules, which run into veins which in turn, flow in to the venue cavae. The arteries have layers of smooth muscle cells, elastic fibers and connective

tissue. Arteries are called the life lines of the body. By a slow and steady process of degeneration, hypertension produces a thickening of the arterial wall and deposits of fatty material (cholesterol) on the walls of the arteries. These deposits obstruct the flow of blood in the effected arteries supplying blood to the heart, brain kidneys and legs. In the heart angina appears and in the brain attack of paralysis may occur. The deposition of cholestrols on the arterials wall do not occur in a day or so. It is a gradual process which occurs in many years. High blood pressure aided by the metabolic abnormalities of High blood cholestrol results in clogging of the arteries.

# Hypertension and Perennial Paths of Yoga

In Hypertensions, the actions, reactions, thoughts and sentiments of an individual play very important role. The limits of the physical body can never be transgressed without knowing and mastering the sensory impulses which govern the process of living. The most vital impulses delude us the most. That is why the vital instincts and rhythms can only be acted upon and mastered through a very Expert Technique. It is this technique which is called yoga. Yoga, like psychology, goes straight to the root of the most powerful instincts which sway over the body and the mind. Today the human being is destitute, suspicious, aggressive, restless and tense. Ever increasing Disease of Insomnia. mental tension and physical stress, Impulses opposing ethical values and destructive instincts are some of the common psychological and physiological problems facing man. An important reason for this growing affliction is that the present day man, due to complexity of Existing cultures can neither express nor fulfil his desire in a natural way, nor can he get rid of everincreasing ambitions. In the inner self, a storm of passions and outwardly a covering of civility are such two levels which are breaking the man of his own. A deep void and perplexity full of struggle is the tragic tale of modern man.

According to Freud, libido is the main force at the root of Impulses, passions and their consequences which in a way is a desire for a spouse and in its common form is a will to possess. Fatherly or motherly love, materialistic fascination, anger, envy, repulsion---all the feelings and impulses are expression of this power. The fundamental instincts when growing in the form of desires gradually become hard-knots and are called passions. These passions colour all the actions of the Individual in their own colour and through them the karma is expressed and enhanced. Passions expect their own fulfilment and in this effort and their context, the generated pro and against emotions also desire their expression. But due to contrary external positions and non-acceptance by ethical ego, which does not recognize them, does not allow them to be fully expressed. Thus the struggle of these two elements generates tension.

In Yoga, the purgation of protruding emotions can be catharised without suppression. Since the emotions have both the physical as well as mental dimensions, meditation, pranayama and Asanas can be helpful for the catharsis of emotions. Yoga is a perfect subjective science and Art. One can attain harmonious development of one's body and soul by the practice of yoga. Yoga is turning away of the senses from the objective universe and the concentration of the mind within.

A. Mantra Yoga: It has been researched and established in many Yoga Research Centres of India that Mantras can control hypertension. Mantras produce vibrations which can be very effective in preventing Hypertension. Mantra yoga is usually practised in the form of rhythmic repetition which is called. Japa of certain hermetic formula. The practitioner of Mantra yoga repeats the tune of "Aum" or the simple but very

efficacious mantra "Aum Namah Shivayi". There are many kinds of mantras, the repetition of which yieldsmost diverse results. The four chief categories of mantras are: siddha, sadhya, sasidha and Ripn.

Persons suffering from Hypertension need repeat siddha mantras only. The greatest of the mantras is one syllable "Aum" which represents the highest, the most abstract aspect of divinity. Patanjali and Manu recognise it as the supreme Mantra and as the root of the eternal wisdom. Compared with that of other ritual practices, the effect of the ritual of japa is ten times great mantras should be done in a quiet place.

Following are the different Angas (steps) of Mantra Yoga:-

- 1. Devotion (Bhakti) is the first step, the most pertinent and easiest form of spiritual achievement for the present age of anxiety and stress.
- Purity (Shuddhi) is of two kinds, Inward and outward. Inward purity is most important in mantra yoga.
- 3. The ways of conduct (Achara). Achara are of three types according to the fundamental qualities of nature. Angelic conduct (Divya Achara) is for the seeker in whom the ascending tendency predominates, the right hand way (dakshina Achara) or way of good actions is for the seeker in whom the expending tendency predominates, while the left hand way (Vama achara) or the way which makes use of the senses as the means of transgressing them, is the way for those in whom the descending tendency predominates.
- 4. Concentration: Concentration is of two kinds, outward and inward. Outward concentration is on an external object, a picture, an image a symbol

- etc. Inward concentration is on the inner world within one's mind.
- 5. Breath-control (Pranayama) helps to control the movements of the mind.
- 6. Contemplation (Dhyana) consists in witnessing within one's mind the shape of the chosen deity.
- 7. Identification (Samadhi) when the meaning of the mantra has been realised the mind dissolves into the Deity the mantra represents, there remains no notion of a separate seeker, search and sought. With Identification, the seeker has fulfilled his aim.
- B. The Bhakti Yoga: It is Bhakti (Prayer) which has curative and preventive value for persons suffering from Hypertension. The path of Bhakti yoga is the path of trust love, faith, and devotion. It is complete surrender before the Divine will. Bhakti yoga is the religion of the Heart. Bhakti is the approach to god through worship, adoration and self-abnegation. The Bhakti Yoga is based on the philosophy of love. Bhakti has been classified as:-
  - a. Apara (lower) observing rituals and ceremonies.
     A worshipper goes to temple, applies sandal paste and rings bells.
    - b. Para (Higher) Free from three gunas (Sattva, Rajas and Tamas) and any motive or desire. A devote has universal love. He wishes good of all.
  - a. Ragatmika (Primary): It is free flow of divine love without any binding. The devotee is like a child (Innocent and simple) and aspires for his love for God.
    - b. Vaidhi Bhakti: Consists of many rituals ceremonial rules and codes.

- 3. a. Sakamya: It is secondary type of devotion with motive or desire for power and pelf and wealth.
  - b. Nishkanya: Devotion without any desire or fruit.
- 4 a. *Vyabhi Charim*: To love God with some purpose such as to possess a wife, wealth and property.
- b. Avyabhicharim: To love god alone for ever and ever without any desire for fruit or reward.

The sadhak (devote) has to lead a life in harmony with universal pattern. In the path of true devotion (Bhakti) eight signs have been indicated. Tears, palpitation, tremor, weeping, laughing, horripilation, fainting, and inability to speak. Sri Ramannju has suggested some basic requisites for developing and intensifying Bhakti. Abhyas (Practice), Viveka (discrimination) satya (Truth) Arjava (Straight forwardness) kriya (doing good to others), kalyana (wishing good to others), Daya (Compassion) Ahimsa (Non-injury), Dana (Charity), Anavasada (without sorrow), Prasanta (Cheerfulness), Salvation of mankind is the supreme plan of the Divine. The more man turns to God, the more powerful he becomes.

The Hindu scriptures are the crowning achievements of Indian thought and culture. The most remarkable quality of these scriptures is their universal appeal. Universal love and universal prayer. Fatherhood of God and brotherhood of mankind. Bhakti or prayer will serve as pancea for those who undergo the spell of stress and strain, strife and struggle and Hypertension. Coleridge has rightly said:

He prayeth best who leveth best
All things both great and small
For the dear God who loveth us
He made and loveth all.

C. The samarpan (self-surrender) Yoga :- The word "samarpan" implies surrender. They also achieve peace and spiritual perfection who surrender completely to the will of God. Samarpan Yoga suggests that the devotee should surrender his mind, feelings, intellect and everything into the Lord. He should take refuge in the Divine will .The Infinite world is being controlled and directed by the supreme Intelligence. It is moving and working under certain laws., so the devotee should merge his little self into the supreme and break his limitations. According to the philosophy of samarpan yoga, all the physical barriers and obstacles must melf away before the powers of complete submission to the Lord. Renunciation is not to be so much from the body as much from the mind. A devotee needn't renounce the world which is a great school for training his will, testing his character and developing his talent and energies. If a devotee resolves to live and grow with the great law of self -surrender to the Divine will, he will be without worry, mental tension or hypertension.

It was Budha who declared, "What we think, we become". Mind does show her three faces. Sometimes Rajas running wild., sometimes Tamas with dark despair and sometimes Sattva with sweet serenity. The human mind is a powerful Instrument with which we can solve most of our problems. It is a suitable instrument that enables us to wage our unique battle against our huge ignorance. It is our sacred duty to use our mind in a positive way, with the help of positive thinking. It prevents mental and physical intertia. Mind is the wildest, fastest wanderer as mischievous as a monkey, as cunning as a fox, fickle, whimsical slippery, oscillating easy to fall into the net of temptations and allurements. It left uncontrolled, it becomes a source of evil thoughts, morbid feelings, malicious intentions sinster motives sensual desires, pervert Ideas, ignoble actions which

can land man to doom and which can cause hypertension. Happiness, sorrows, realization, hallucination, boudage depends on one's mind. Whether one lives in Heaven or hell, in the house or moves to the forest, the mind will continue to haunt. In the "Tejo-Bindo Upanishad". It is mentioned, "The mind alone is the universe. The mind alone is the great foe. The mind alone is the great misery. The mind alone is Impurity. The mind alone is desire. The mind alone is Citta (Thought)". Patanjali gives number of conditions which serve as destroctors of mind and consequently make the successful practice of Yoga impossible. The main destructors of mind are "Disease, languor, doubt, carelessness, laziness, delusion, Instability and ego".

### **Meditation as Medicine**

With increasing complexities in our life style. The level of stress have been rising sharply. The medical data and research Experiences indicate that 80% of the patients suffer from stress related problems and diseases caused by stress. The factors that contribute to stress not only differ between cultures but also within a culture itself. From a sophisticated Industrial society, and from upper class to lower class within the same society stress has been Experienced since time immortal but today its toll is higher than ever before.

To keep the mind solely on one object is meditation (Dhyana). Meditation is that state in which the tendencies of the concentrated mind begin to flow around one single notice like an uninterrupted stream of oil, and the mental faculties (manas) remain without any outward object. Meditation is of three kinds, material (Sthula Dhyana)., luminous (Jyotir-Dhyana). In material meditation, the Image of a diety or one Guru is thought of In luminous meditation, the radiance of Divinity or of Nature is pondered. In subtle meditation, the mind is concentrated on one point (bindu). Where the unmanifest becomes manifest. Five things are essential If one wants to practise effective meditation and attain self-realization. They are Mowna, light diet, solitude, Internal and external purification, and Pranayama. Great are the powers of meditation. One can build through regular meditation a strong fortress and a

magnetic aura around one which cannot be penetrated even by the Mighty Maya or Satan. One should increase one's will power and eradicate vasanas, control senses. There are many valuable trainings of the mind which are essential to mental culture. For instance training of the memory, the cultivation of reflection, discrimination and "vichar". The practice of medication itself is a potent clarifier of the memory when one will be able to enter into deep meditation. If one leads a moral life., and abandons all sensual objects. One can cultivate the mind in concentration and finally devote oneself to meditation. A person who says, "I practise deep meditation daily" when he has not removed the evil traits of the mind, is a confirmed hypocrite. Meditation should come naturally on account of serenity of mind. A person who is doing deep meditation should conserve the energy by taking a little, observing mowna, controlling anger, practising Pranayama and by regulated and controlled sexual life. The person should also annihilate lust, greed subdue the senses, and empty Egoism. He should meditate on "Om", and take refuge in "Om". Meditation is a great medicine. This is the master key for opening the realms of eternal bliss. It may be tiring and disgusting in the beginning because the mind will be running away from one point to another. But after regular practise. It will be focussed in the centre.

It is better to get up at 4 A.M. with clear and calm mind and normal blood pressure. There is a spiritual influence and a mysterious silence in the morning hours. The person doing meditation at this hour will be highly benefitted by the vibrations of prayer, japa and meditation. The meditative state of mind will come by itself. Vibrations play a vital part in the Elevation of mind and controlling blood pressure. In the research branch of Yoga Mission International, Barnala the Experiment was conducted. 20 persons suffering from High blood

pressure were asked to do meditation daily for half an hour before doing Asanas and pranayama. After one week, their blood pressure came to normal and it was maintained for one month. Being convinced of the vibrations of mantra and benefits of meditation they have made meditation as part and parcel of their life.

There are different kinds of meditation. A particular kind is best suited to a particular mind. The kind of meditation varies according to taste, temperament, capacity and type of mind of the individual. A devotee meditates on his or her Ishta Devta. A Raja yogi meditates on the Purusha or Ishwara., A Hatha yogi meditates on the chakras and their presiding Deities., A Gyana Yogi meditates on his own self or Atma. A mantra yogi meditates on his favorite Mantra., A Bhakati Yogi meditates by cultivating pure love for God.

In Yoga, the vision is directed inside. The outgoing senses and the mind are restrained by constant practice. The yogi controls the vritis or the waves of the mind with meditation. He stops the mental waves through concentration and meditation. He curbs the base or negative thoughts by sublime thoughts.' The mantra "Aum" is ferryboat for men who have fallen into the never-ending ocean of mundane life. Aum is everything. It is the name of symbol of God. Aum covers all the three fold Experiences of man. In this mantra "A" represents the physical plane, "U" represents the mental plane and "M" represents the deep sleep state. Aum represents all known and unknown. Aum is the basis of one's life, thought and Intelligence. The world has come from Aum, rests in Aum and dissolves in Aum. So one should meditate on Aum. With the help of meditation, one can have a steady mind and positive thoughts. Meditation is like an aeroplane that helps the aspirant to soar high into the realms of Eternal bliss and everlasting peace.

Regular meditation can open the avenues of Institutional knowledge, and make the mind calm and balanced. The practitioner of meditation will enjoy supreme peace if he maintains silence. The power of silence is greater than Idle talks, gossips and lectures. The language of silence is the language of Heart. When a sadhak enters the silence through deep meditation, his worries, anxieties, Tensions, stresses and strains will drop away.

Regular meditation contributes in the purification of emotions and the sadhak will begin to love every creature. During meditation the aspirant should forget the external world and then his body. Environments are not bad but our mind is bad. Our mind is not welldisciplined we should train our mind first, Depression, doubt and fear are great obstacles in the path of meditation. Sometimes our mind revolts, Indrivas pull our legs and under current of vasanas (Passions) gush to the surface of the mind. But we should face these passing shocks boldly with the help of meditation. Success in yoga is possible only if the aspirant practices profound and constant meditation. He must practise selfrestraint at all times because all of a sudden the senses may becomes turbulent. That is the reason why Lord Krishna advises Arjuna "O son of Kunti the Excited senses of even a wise man, carry away his mind". Those people who have not practised any yogic discipline in curbing the senses, vrittis or impurities will find it difficult to practise concentration and meditation. Constant and regular meditation can also develop divine or sattwic virtue.

The rapid growth and expansion of industrialization and urbanization have given birth to new psychological problems i.e., stress and strain, cutthroat competition, Excessive hurry and worry have come in the wake of this new phenomenon. Psychic changes appear in the form of Irritability, nervousness, palpitation and High

blood pressure. Yoga in general and meditation in particular can come handy to a person who finds himself stuck in the quagmire of these mental disorders. Yoga and meditation is medicine for stress and hypertension. It works wonderfully where innumerable tranquilising agents have failed miserably. Meditation is one of the most important components of Integrated practice of yoga. If we practice meditation, we gradually develop confidence in our selves. The realization of self is the most important state to be achieved by different types of meditation. A person who is lucky enough to realize this state of "pure-self" can understand the hidden meaning of what our upanishads said, "What is within us is also without, what is without us is also within".

According to yoga, all diseases originate from an unhealthy state of mind. The western psychologists also corroborate this fact. They are of the view that diseases of the body can be attributed to hatred anger, worry, jealousy, depression and hypertension. Yoga should welcome the way of Integral yoga. While practising this yoga, the body as well as mind is free from stress and pressure. It lays emphasis on kirtan, prayer, meditation and righteous actions and thoughts combined with selfsurrender. Yoga is secular, whosoever wants to free himself from the din and noise, stress and strain, tension and hypertension, Trials and tribulations must come to the refuge of yoga and meditation which is a great medicine. Meditation is gaining a considerable importance and spreading both in India and abroad mostly for its therapeutic values. Majority of the population in every advanced country in the world are suffering from acute mental stress and strain, depression and anxiety, and number of psychosomatic diseases such as diabetes, blood pressure, heart problems and cancer. To overcome mental strain and stress they are becoming victims of drug-addiction, cigarette smoking

alcohol and narcotics. These bad habits in turn cause mental, physical and financial problems, crimes, rapes, murders etc. Millions of people are dying due to incurable diseases such as Aids and cancer. Heart problems and diabetes have become very common in every country. The only costless and drugless therapy is meditation. It is both prophylactic and therapeutic. Satyanand saraswati (Bihar school of Yoga), Mahesh yogi (Transcendental meditation), Dr. Swami Gitanand (Pondicherry), Pandit Ravi Shankar (Bangalore) and many other yogis and doctors like Dr. Datey have proved to the world scientifically that meditation is of great help in curing many kinds of diseases. Recently Dr. Harnish from America proved that heart diseases can be cured and reversed and the patient can be brought to the original and normal healthy state of living through simple Pranayama and Meditation. He proved that meditation can melt away the blockages in the arteries of the heart.

The purpose of meditation is to give necessary nourishment to the mind. The Rama Krishna order defines meditation as the science of supplying the mind with the favourable environment necessary for the manifestation of its highest potential which is perfect. Our mind is compared to quick silver because its rays are scattered to various objects. It is compared to a monkey because it jumps from one object to another. It is compared to moving air because it is oscillating and wavering. It is compared to furious elephant because of its passionate impetuosity (force). It is necessary to overcome sensual desires which are great obstacles in concentration. According to Swami Muktanad, concentration means accumulation of energy to perform a thing more skilfully and efficiently with minimum waste of energy. It melts or breaks away the coverings or layers of ragas, Dwesha, Ahankara etc, which are seeds

if diseases. The perfect, continous and unbroken concentration when achieved is called meditation. In the meditation the Individual mind connects itself with the innerself and receives constant and perennial energy flow from the very source. Meditation is also kind of procedure to become aware of one self and directing that awareness to get control over your body, mind and emotions and your whole behavioral pattern of life. Meditation is followed by concentration where the concentration merges in meditation and samadhi is followed by meditation and the meditation merges in samadhi. Concentration, meditation and samadhi (super consciousness) are internal sadhanas. While Asana, pranayama and pratyhara are called external sadhanas. Transcendental meditation was founded by Maharishi Mahesh Yogi. His technique of meditation has become very popular both in India and abroad mostly for its therapeutic values. He claims that transcendental meditation increases learning ability, improves job performances, decreases anxiety and is beneficial in the treatment of psychosomatic diseases. Many scientific investigations were made in several Meditational centres. They provided some evidence that this technique slowed down the body metabolism and reduced Blood pressure. Benson and wallace proved some of therapeutic achievements through meditation by vogis on High blood pressure and some other common diseases of our age. Their experiments revealed falling down of oxygen consumption by 40 percent during the first 10 minutes of meditation and then it showed normal level after meditation. It also showed falling down of carbondioxide level by 20 percent. It was essentially due to decreased metabolism and not to oxygen starvation. The body in a state of rest did not need much oxygen as in normal state. The number of breaths per minute and the volume breathed both of them decreased. Their B.P. remained at low level throughout the experiment.

There is lot of difference between sleep and meditation carbondioxide level increases in sleep while in meditation it decreases. Oxygen consumption does not change in hypnosis while in sleep it increases after a few hours. Skin resistance increases in sleep but in meditation it increases more. The E.E.G. Pattern is different in sleep, in meditation the Alpha usually will be in increased site. Dr. Y.C. Mathur a cardiac specialist from Delhi presented a paper on "Scientific Assessment of Yogi's samadhi and possibility of its application" at the 6th Asian Pacific Congress on chest diseases. He says that samadhi is the ancient technique of deep meditation. It can find its practical use in the Allopathic system of medicines. He says that during samadhi the vogi stops his heart beatings by giving complete rest to the heart and body. The samadhi controls a number of other Biological functions also. Samadhi can emerge into a new concept of treatment as a process of healing. He savs that if this system is developed it will be a boon to the medical profession. It can reduce patients agony and suffering from Heart Ailment.

Dr. Girish of Bombay presented many scientific evidences after experimenting at the Raj Yogis at the university of Taxas. He showed that how one got profound relaxation during the practice of Raja Yoga. He proved decrease of lactic and level in the person during meditation when a person is in stress, his immune power goes down and becomes susceptible to infection and his lactic acid level increases which causes many disturbances in the body and mind. There are evidences of cure of many cases of addiction to smoking, alcohol, and drugs by means of meditation. Similarly in Yogi's body energy becomes convergent, whereas in others it is divergent. Meditation is a technique to produce human lazer concentrated energy inside the mind and body. Diseases like peptic ulcer, High blood pressure,

toxic thyroid, asthma and diabetes can be cured with the practice of Meditation particularly if combined with Pranavama and concentration. Meditation as therapy works wonders. It is a best medicine for all kinds of psychosomatic diseases. It energises and purifies every cell and tissue in the body. When the senses are controlled through the mind by means of meditation it transforms pain into pleasure, disease into health and sorrow into happiness. The meditation leads to withdrawals of senses like a tortoise which withdraws its limb when it is in danger. The senses when used for wrong purposes, energy is wasted and it leads to all kinds of diseases. Dr. Harmesh a world famous cardiologist has done research for 20 years on how to prevent heart attacks and surgical operations which are very costly and to minimise intake of drugs. He proved to the world that heart diseases which were higher to regarded by doctors as Irreversible can be made reversible. He came to India and practised techniques of voga and meditation from great vogis at Himalayas. He had come to conclusion that if an heart patient is put on vegetarian and oil and sugar free diet with practice of Pranayama, Relaxation and Meditation, the future heart attacks can be averted. He also proved that meditation on heart with certain positive suggestions can melt away the blockages in the arteries of the heart.

Meditation to be more effective should be practised daily and regularly at the same place and same time particularly before bed time and after getting from Bed. It meditation is done regularly one can remain with less number of sleeping hours and with less food. Meditation should not be done on full stomach but on half empty stomach. Meditation will be more effective If followed by Savitri (harmony) pranayama or deep breathing and relaxation. This is a kind of preparation for meditation. The body must be clean internally and externally.

# Pranayama

Prana is the fundamental energy, thick or thin, big or small which is present in the universe. All physical and mental forces and powers are the result of Prana. It vibrates through all life from the tiny flowers to the colossal trees, from creatures and animals to human beings.

The word prana is often confused with breathing. Breathing can take place when prana is present. Breath goes directly to lungs while prana goes directly to nadis, prana is in blood, air and Inside bones. The working of prana is seen in the systolic and distolic action of the heart. Though prana is one it assumes five forms i.e., 1. Prana, 2. Apana, 3. Samana, 4. Udana, 5. Vyana.

Prana is force, magnetism and electricity. It is due to prana that circulation, digestion Excretion and secretion take place. The prana performs a number of functions in the human body. Each of these has a specific name and aim.

- 1. Prana: It circulates in the area around the heart and controls breathing.
- 2. Apana: It circulates in the lower regious of the adbomen and controls the Excretory functions (urine and faces.



Fig. 6.1: Prāṇamaya Kośa

- 3. Udana: It remains in the thoraetic cage and controls the absorption of air and food.
- 4. Vyana: It spreads throughout the body and distributes the energy from food and breath.
- 5. Naga:- It relieves abdominal pressure by provoking Excretion.

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6. Kurma: It controls the eye lids to prevent foreign bodies from entering and dazzling light from harming the eye.

- 7. Krkara:- It prevents certain substances from rising into the nasal cavities or descending into the throat causing sneezing and coughing.
- 8. Devadutta: It ensures the absorption of Extra oxygen into the tired body and yawing.
- 9. Dhananjaya: It remains in the body even after death and sometimes causes the corpse to swell. Pranayama implies the rhythmic breathing exercises by which lung-motions, nerve-currents and mind functions are regulated. Pranayama is a scientific, mental and physical exercise. In this exercise the diaphragms and the abdominal muscles get good exercise. The heat, lungs and the nervous and endocrine systems get the massage and the rejuvenating exercise. The process of pranayama involves purka (Inhalation), Kumbhaka (Retention) and Rechaka (Exhalation). In this chapter the technique and benefits of some pranayama exercises (Highly beneficial for persons suffering from High blood pressure) will be discussed. In the practice of Each exercise, nerve, heart and lungs are involved. One should proceed steadily with due caution and care. When done regularly and correctly these exercises will normalise the blood pressure and will restore vitality for the body and peace for the mind.

## 1. Sukh Purvak Pranayama

This type of pranayama contains most of the benefits of pranayama. It equalises the Intensity of the flow of air of the two nostrils. It is extremely beneficial to the people suffering from High blood pressure, cough, cold and respiratory ailments.

### Technique

On a folded blanket, sit in Siddhasana. Close the right nostril with the right thumb and inhale through the left nostril. Inhale as slowly and naturally as you can fill your lungs with air. Retain breath for a couple of seconds and now exhale breath slowly. Now close the left nostril with the ring finger of the right hand and exhale slowly through the right nostril. Inhale breath and then close off the right nostrils with the right thumb and retain breath for a couple of seconds and exhale through left nostril. Repeat this 8 to 10 times.

### 2. Samveta Pranayama

This pranayama is performed as a warming up Exercise performed first for cleaning breath before starting pranayama Exercise. It purifies the entire system and fills the body with energy and vitality. It normalises the blood pressure and also helps relaxation of mind and body.

### Technique

On a folded blanket, sit in Siddhasana or Padmasan and Inhale air with both the nostrils simultaneously. Hold the breath for a couple of seconds and then Exhale air with both the nostrils. Both Inhalation and Exhalation should be done slowly., and the period of retention of breath should be increased gradually. This process should be repeated 10 to 15 times.

### 3. Sahita Pranayama

This exercise tones up the system and prepares the practitioner for advanced exercises. This exercises has also great Effect on the psychic nerve channels. While doing this exercise or any pranayama exercise breath should never be retained forcibly for a great length of time.

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### Technique

Sit in any comfortable Asan and inhale air with both nostrils and retain breath as long as you feel comfortable. Then release the breath slowly and rhythmically with both the nostril. Repeat it from 10 to 15 times.

### 4. Nadi Shodan Pranayama

This type of pranayama is of great importance. It should be practised under the supervision of an expert. This pranayama exercise can cure many ailments. While during inhalation exhalation and retention, spiritual mantras should also be practised. It improves the pulse and reduces the High blood pressure. It is extremely beneficial for lungs and Heart.

### Technique

Sit any comfortable Asan and check which nostril is flowing more freely than the other. Suppose the left is free, close the right nostril with your thumb and start inhaling through the left nostril. Count 15 numbers during inhalation. Close your nostrils, with your thumb and ring finger and hold your breath inside till you have finished counting 30. Open the right nostril and exhale the air slowly in 20 counts. Now again breathe through the right 10 counts retain your breath for 30 counts and exhale through the left nostril in 20 counts.

### 5. Ujjayi Pranayama

This type of Pranayama creates heat in the body so it is more beneficial in cold season. It is very beneficial to persons who are very sensitive to cough, cold influenza and Bronchitis. It also reduces blood pressure.

### Technique

Sit in any comfortable Asan. Close the eyes and the mouth. Inhale slowly through both the nostrils in a slow smooth and rhythmic manner. Retain the breath as long as you can comfortably and exhale through the left nostril by closing the right nostril with your right thumb.

### 6. Bhastrika Pranayama

Bhastrika is also a powerful pranayama exercise and should be done under the supervision of an expert. In this exercise lungs get maximum exercise. The entire circulation and respiratory systems are invigorated, vitalised and purified. This exercise should not be practised by those who are suffering from some Heart or lung disease.

### Technique

On a folded blanket, sit in Siddhasana. Close the mouth and the eyes close the right nostril with the right thumb and inhale air through the left nostril. The inhalation should be quick. Repeat the process with left nostril. The process of Inhalation and Exhalation should be done quickly. In both the processes the breath should be retained for a couple of seconds. Now inhale breath with both the nostrils and exhale breath with both the nostrils quickly. The last breath should be retained for 20 seconds.

### 7. Sheetali Pranayama

The word Sheetali means "Cooling". By doing this pranayama exercise cooling effect is experienced throughout the body. Sheetali is good blood purifier and it controls high blood pressure.

### Technique

Sit in Siddhasan or Padamasan., and protrude the tongue out of them outh and curlitup like a tube. Inhale slowly through the mouth and through the tube of the tongue. Retain breath for a couple of seconds. Exhale breath through both the nostrils. Repeat it 10 times.

Health has rightly been described as the blessing of the rich and riches of the poor. Without health life is dull, dreary and dross. A man may possess power and pelf, all the comforts and luxuries of life, he may get dainty dishes to eat but if he does not have good health, all these things have no charm for him. Health is the basic condition of happiness and contentment. Life is a struggle for existence and in the world there is survival of the fittest. Healthy persons with courage stamina, vigour and vitality can be successful in the battle of life. Health has been declared as a fundamental human right which implies that the state has the responsibility for the health of its people. Normal health is the result of living in accordance with the natural laws pertaining to the body, mind and environment. These laws are associated with fresh air, sunlight, balanced diet, yoga, rest, relaxation, sleep cleanliness internal and external and positive thinking. To a layman health implies a sound mind in a sound body., Sound family in a sound environment. The world health organization (WHO) defined Health as "a state and not merely an absence of disease or infirmity". According to this definition health has three vital aspects, physical, mental and social. All the three are Interrelated. A fourth aspect namely spiritual health has also been suggested. Physical aspect is the most vital aspect of health. A mentally healthy

person feels happy, calm and cheerful without conflicts. He has the quality of adjustibility. He is neither overcome by emotions nor dominated by fear, anger, jealousy, greed, guilt or worry. The concept of social health implies ability of making lasting friendship and also socially considerate behavior. Spiritual health is something that crosses the barriers of physiology and psychology. The definition of health given by WHO is subject to criticism. It is not realistic. Health cannot be considered a "state" but it is to be seen as a process., a process of continuous adjustment to the changing demands of living and the changing meanings we give to life itself. The ancient saying "Nothing stands still" is applicable to Health.

Yoga lays great emphasis on the purification of Internal and External organs and recommends simple methods regarding purification of Internal and External organs, breathing (pranayama), Art of Eating, Relaxation, yogasanas for preventing diseases and promoting health. Yoga enjoys distinct advantage and superiority to other systems of physical culture. In yoga physical Exercise both static and dynamic differ basically from the gymnastic or sports and games because the natural and normal cleanliness of internal nerves and organs is possible only in voga system. In yoga, training is imparted to an aspirant according to his physiological needs and psychological requirements. Success in yoga depends essentially on the selection of proper course suited to the needs and abilities of an Individual. Today it is recognised by all leading scientist in the field of physical Education that the real field of physical training should not be the muscles but the nervous system.

No doubt, man cannot live for ever nor can he enjoy perfect health for ever. But he would always like to derive maximum benefit out of life and Health. Man has shown

tremendous progress and achievements in the prevention of diseases and prolongation of life. Our body is an instrument of attaining peace, pleasure and perfection. This instrument must be kept clean, strong and healthy. The body can be compared with a horse that takes you to destination. If the horse tumbles, you cannot reach your destination.

Good health is a valuable asset to one and all. It can be kept in proper trim by the regular practice of yogasanas. The practice of Asanas controls the emotions, produces mental peace, distributes prana evenly throughout the body and helps in maintaining healthy functioning of the Internal organs. Physical exercise draws the prana (energy) out but the Asanas send the prana in. The practice of Asanas cures many diseases. One should practise a few asanas daily. One will possess wonderful health. Asanas should not be done at random and according to one's choice and whim. Each asan has specific aim. While doing asanas, sequence must be maintained., and persons suffering from High blood pressure should not do following asanas. They can be very harmful and dangerous for hypertensive persons. Asanas namely shirshaasan, Mayurasan, Halasan, Chakarasan, Garabasan, Dhanurasan, Matsyasan, Ushtrasan, Supta Vajarasan, Yog Mudra, Sarvangasan Lolaasan, Adho Mukhasana, Koormaasan, Karna pidasan, Kapaliasan----These Asanas should never be done by persons suffering from High blood pressure. We know many hypertensive persons to whom some of these asanas have proved fatal. In this chapter we have given only those asanas which can prove very beneficial for hypertensive persons. Asanas should be done with an empty stomach and never immediately after meal. Asanas should be practised in a quiet. Calm, clean place. In unfair or rainy whether asanas may be done in an airy room or verandah free from mosquitoes, flies ants

and bugs. During the practice of asanas and pranayama no strain or stress or jerk should be felt in the facial muscles ears and eyes. Except in the case of simhasana, the eyes and mouth should remain closed during the practice of asanas. While doing asanas breathing should be done through nostrils and never through mouth. After doing each asan, rest must be taken for a couple of minutes. After completing all the asanas, Shavasan must be done last of all. Shavasan will give soothing effect and remove all fatigue and strain, physical and mental. Women during the period of conception, menstruation, pregnancy or any female disorder should avoid doing Asanas. Bidi, cigarettes, alcohol, charas, opium and other intoxicants should be shunned by the practitioner of Asans.

It has been observed that some beginners (both boys and girls) feel discouraged when they are not able to perform this or that Asan. They should not feel discouraged. They should always remember the advice of the greatest and the widest sage Patanjali, "The young the old, the extremely aged, even the sick obtain perfection in yoga by constant practice". Success in yoga is not obtained by mere theoretical study or talking about it, or reading the sacred texts, practice alone is the secret of its success.

Following Twelve Asanas are highly beneficial for persons suffering from Hypertension (High blood pressure). These asanas have preventive and curative value for hypertensive persons. The practitioner of these asanas must keep in mind three basic and essential things while doing these asanas.

1. Concentration, 2. Breathing control. 3. Sequences while doing these asanas, one has to focus one's concentration on heart. One has to be careful about

breathing. Inhalation, Exhalation and retention of breath. Then one has to be careful about the sequence. Which asana is to be done after which asana. The asan can prove highly efficacious and beneficial. If breath is retained for a couple of second in each asan.

### 1. Siddhasan (Adepts Pose)

Comments: Siddha in Sanskrit means adept. Yogis and Rishis have spoken high of this asan. Great saints and sages like Nityamatta, Niranjana, kapali, sabar used to meditate in this asan for hours together. The knees of the beginners may find it difficult to stay flat on the ground but by practice they can overcome this difficulty.



Fig. 7.1: Siddhasana

### Technique

Sit on the folded blanket on the floor, bend the left leg and pull the foot in against the groin. Now bend the right leg and bring the foot across and insert its outer edge in the crence between the calf and the thigh of the left leg. The right heel should press against the pubic bone and both the knees should firmly touch the floor. Keep the palms of the right and left hands on the right and left knees. Sit upright keeping the head and the back in a straight line. For variation, change over the legs regularly place the heels near the groin carefully lest the pubic bone should be hurt.

#### 2. Vajarasana (The Thunder Bolt Pose)

Vajra implies diamond. As the name suggests this asana makes the body graceful and strong as diamond. It is the prayer pose of the Muslims and the mediative pose of the Buddhists.

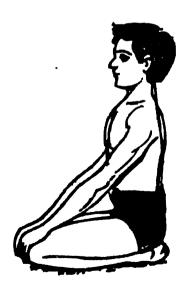


Fig. 6.2: Vajarasan

#### Technique

Sit on the folded blanket with the feet stretched backward and big toes crossed. The knees should be kept together but heels apart. Lower the buttocks inside the feet. The heels should touch the sides of the hips. Place the hands on the knees, palms downward.

### 3. Simhasan (The lion Pose)

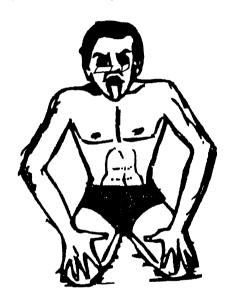


Fig. 6.3. Simhasana

This pose appears to be odd and unpleasant but is very much rewarding and rejuvenating for throat, face and neck. In Sanskrit, simha means a lion. This pose is dedicated to Narsimha, the man-lion incarnate of Vishnu, refers to the famous legend in Indian scriptures. The modern yogis think that this is a fine asana for isometric contraction exercise. This asana has two variations. The first given below follows second which is more strenuous but has greater beneficial effects

since in this asana it becomes difficult to breathe in and out continuously so practitioners should practise this asana for a couple of seconds only. This asana is held sacred by the best of yogis.

### Technique

Sit on the folded blanket with legs stretched straight in front. Raise the seat, bend the right knee and place the right foot under the left buttock. Similarly bend the left knee and place it under the right buttock. The left ankle should be kept under the right one. Sit on the heels with toes towards backwards and put the weight of the body on the thighs and knees. Stretch the trunk forward and keep the back erect. Place the right and left palms on the right and left knees. Stretch the arms straight and keep them rigid. Then spread the fingers and press them against the knees. Open the mouth and eyes wide and protrude the tongue out and down as far as you can. Gaze at the centre of the eye brow or at the tip of the nose. Remain in this pose for a couple of seconds. Breathe through the mouth.

### 4. Padamasan (The Lotus Pose)

Padamasan is a unique pose for meditation worship and prayer. It is held in high esteem by the yogis. It was the pose adopted by great Maharishi Patanjali, Lord Buddha and other great Saints and Sages like Sandilya, Ghereanda, Matsyendra, Bharava and Swatmaran. It is called Padamasana after the famous flower Lotus. This asana needs sufficient suppleness. Woman and children can make a better attempt in doing this asana than men. Those suffering from stiffness of legs and knees and ankles will feel uncomfortable in this posture but regular practice will make them perfect.

### Technique

Sit on the folded blanket with your legs outstretched bend each leg and place each foot on the opposite thigh, soles turned upward. Pull the foot as high as you can.



Fig. 6.4 Padmasana

Keep the palms of the right and left hand on the right and left knees, touching the thumbs with tips of index fingers and gaze at the tip of the nose. Keep the head, neck and spinal column straight and erect, and breathe slowly.

### 5. Gomukh Asan (Face of as Cow Pose)

"Gou" in Sanskrit means "Cow" and "Mukha" a "face". This asana is used for meditation, prayer and breath control. The asana when displayed correctly resembles the face of a cow.

### Technique

Sit on a folded blanket on the keels, knees together and head, neck and spine straight. Bend the right arm, raise the elbow and lower the hand as far down the middle of the back without disturbing the upright



Fig. 6.5. Gomukhasana

posture. Bend the left arm and bring the left hand up the centre of the back until the fingers of both hands interlock. Breathe deeply, repeat the process in reverse manner. Return to the original position and relax.

### 6. Bhujangasan (The Cobra Pose)

Bhujanga in Sanskrit means "a cobra, when the full and correct pose of this asana is adopted, it resembles a hooded cobra. This asana belongs to the category of sacrum asana. This asana is more beneficial to women for strengthening the ovaries and uterus. This asana has four variations ... the sphinx pose, the sarpasana pose, twisting cobra pose the full cobra pose. People suffering from peptic ulcers, hernia and intestinal tuberculosis should not practice this asana.

### Technique

Lie flat on the stomach with legs straight and the feet extended. Place the hands, palms down under the

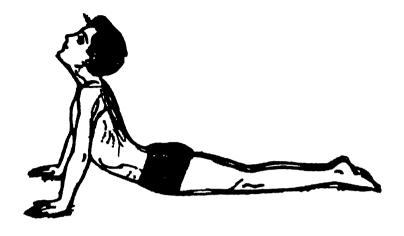


Fig. 6.6: Bhujangasana

shoulders, slowly raise the body above the navel until the arms are straight but the stomach and the legs must touch the floor. Bend the head back, gazing diagonally upwards, remain in this pose for a couple of seconds, breathe slowly and normally throughout.

### 7. Marjariaasan (The Cat Pose)

This asana is one of the simplest and can be performed by anyone easily. This asana is also performed from Vajrasana and can be extremely beneficial if the stomach is contracted during exhalation. Marjaria in Sanskrit means a cat. This asana belongs to the energy block group of Asanas.

### Technique

On a folded blanket, adopt the pose of Vajrasana. Raise the buttocks and stand on the knees and at the same time, place both hands flat on the floor in front of the body under the shoulders. Inhale and raise the head. Then exhale and lower the head and arch the spine.

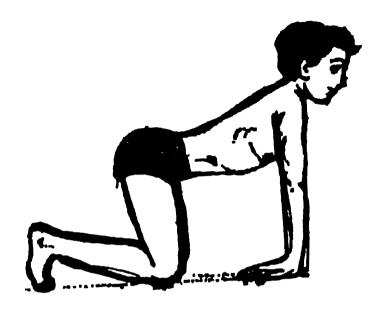


Fig. 6.7: Marjaria Asan

Again, bend the spine and raise the head. The arms to be kept straight and vertical.

### 8. Jeytiskaasan (The Best Pose)

It is more or less the same as Advasana with slight variation. It is also very simple, easy and comfortable asan and can be performed by anyone irrespective of age, sex or place. Spread a blanket on the floor and adopt the pose of advasana. Interlock the fingers and place the palms at the back of the head. Breathe slowly, deeply and rhythmically, Relax the whole body.

#### Benefits

This asan tones the nervous system, relieves neck pain, shoulder pain and develops power of concentration, sharpens memory and removes headache and migraine.



Fig. 6.8 Jeytiska Asan

### 9. Parvatasan (The Mountain Pose)

This asan appears to be easy. But it is very efficacious for hypertensive patients "Parvat" means mountain. In this asan breath is to be retained as long as arms are up.

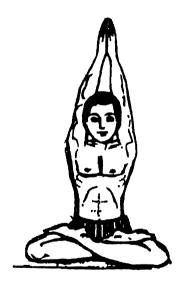


Fig. 6.9: Parvatasana

### Technique

Sit on a folded blanket in sukhasan or siddhasan. Raise your hands up slowly. While raising the hands inhale breath and retain breath as long as the hands are up. Lower down the hands slowly and exhale breath., repeat it at last five time and relax.

### 10. Naukaasan (The Boat Pose)

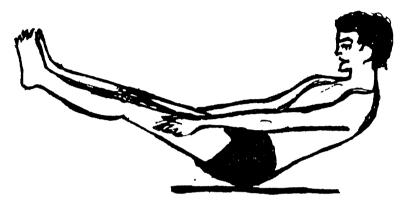


Fig. 6.10: Naukaasan

This Asana is one of the simplest asanas belonging to the energy blocking group of asana. Energy in the form of prana (life force) is in every part of the body. It must have free flow. Sometimes due to certain impurities or chemical reactions, the free flow is blocked resulting in stiffness, rheumatism and muscular tension. This asan when performed correctly resembles the shape of a boat. Hence named Naukasana. It has a number of variations.

### Technique

Lie on the floor facing the sky with hands clasped at the back, Raise your feet, head and the chest up as to form a curve on the floor, with your body resting on the abdomen. In this pose, the body appears like a boat. Breathe slowly and rhythmically. Remain in this pose for a couple of minutes., and rock the body from one side to another like a boat.

#### 11. Salab Asan (The Locust Pose)

In Sanskrit, Salabha means locust. When the full and correct pose of this asana is displayed, it resembles a locust with its tail raised. In Bhujangasana, the body below the navel touches the floor but in salabhasana the process is reversed i.e., the upper body touches the floor.



Fig. 6.11: Salab Asan

### Technique

On a folded blanket on the floor, lie prone on the stomach and chest. The forehead and the chin must touch the floor and keep arms along side the body and legs extended together. Take a deep breath, clench the fists tightly and raise the legs together as high as possible without bending them. Exhale breath and bring the legs slowly to the floor. Remain in this pose for a couple of seconds, and return to the original position and relax.

### 12. Shavasan (The Corpse Pose)

Shavasana is very important powerful and popular asana. Shav means corpse or dead body. This asan is also called "Total Relaxation pose". Today, when the stress and strain of life are increasing rapidly shavasana is the only asana that provides right relaxation to our psychophysiological system.

### Technique

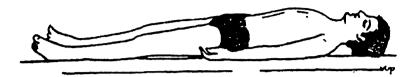


Fig. 6.12: Shavasana

On a soft carpet or blanket lie full length on back with arms away from the body facing upward and feet slightly apart. Close the mouth and eyes and withdraw the consciousness by stages beginning with the feet, the ankles, the abdomen, the chest, the neck and the face. Finally keep the mind free. Start breathing slowly deeply and rhythmically. Inhale breath and retain it for a couple of seconds increase the period of retention of breath gradually. Keep the body motionless like a dead body. The technique of this asanas must be followed carefully. Slow and longer breathing is necessary in this Asana.

Benefits: Shavasana is an excellent asana for complete physical and mental relaxation. Tension, Irregular and faulty breathing can cause many diseases. This asana removes all mental tension, stress, strain and hypertension. It restores energy and cures many heart ailments nervous disorders and depression. This asana when performed correctly gives rest, peace, and tranquility and relaxation to the body and mind.

# The Diet Therapy

Hypertension, or Elevation of the blood pressure above normal is a symptom which accompanies many cardiovascular and renal diseases. It may occur at any age but is found frequently in people over 40 years of age. Hypertension may be caused temporarily by emotional disturbances or by Excessive smoking. About 70 to 80 percent of patients belong to the group known as essential hypertension for which the cause is not well-known

Diet plays very important role in hypertension. There are foods which are harmful to the hypertensive patients. In hypertension, two important factors are to be kept in mind regarding diet. The level of blood pressure and the correction or prevention of metabolic abnormalities of slat, cholesterol, obesity and glucose any of these may act as risk factor for the heart and other organs. It has been established that a high consumption of salt (Sodium Chloride) increases blood pressure. Half a century ago, when the effective medicines for hypertension were not available the doctors used to recommend salt-free diet or low-salt diet to the patients. But today when effective medicines are available the patient should take low-salt diet. The total salt content of the food should not exceed 6 gm per day. It would be better 200 to 250 gm of boiled rice should be taken daily. The hypertensives should stop smoking cigarettes. Alcoholic drinks should be

discontinued and intake of ghee, butter, cream, eggs, meat, excessive fat containing food items should be stopped. Hot spices, pickles, chutne red chilies should be excluded from the eating menu. Moreover over eating keeping awake longer during night should be avoided. Vegetables are good for a patient of hypertension. Vegetables should be boiled vegetables like cucumber, carrot. tomatoes, onions, radish cabbage and spinach are best if taken in their raw form. They may be cut into small pieces and sprinkled with the juice of lemon. With salt-free diet, the blood pressure will show the signs of abating. Moreover, the patient must avoid overstraining worries, tension, anger and hate. He must try to be cheerful. It may be difficult to remain cheerful in all situations and all conditions but one has to adopt this principle for the sake of his health and life. Mental strain and artificial way of life are some of the important contributory factors in Hypertension. Since kidney diseases, hardening of the arteries and severe constipation lead to High blood pressure. The efficacy of the ripe-fruit diet to appears to be due to its low sodium content About 40 percent of hypertensive patients may be expected to improve when the diet is restricted to approximately 200 mg sodium each day. The dangers of long use of sodium-restricted diets, must be kept in mind. Diets which are very low in sodium must be used with caution since there is the constant danger of depletion of body sodium. Hot weather may bring about great losses of sodium through the skin. The use of mercurial diuretics also increases the amounts of sodium lost from the body. Sodium depletion is characterized by weakness, abdominal cramps, lethargy, oliguria, azotemia and disturbances in the acid-base balance. Constipation, is another factor in increasing blood pressure. Constipation, indigestion and flatulence can raise the pulse rate also. In such conditions the patient is advised to take more organic foods to remove constipation. Moreover, the patient should take a warm

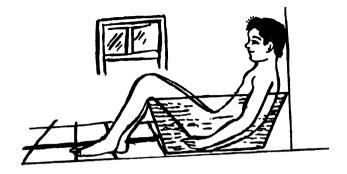


Fig. 8.1: Hip-Bath

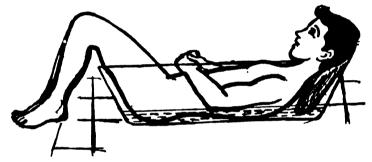


Fig. 8.2: The Spinal Bath



Fig. 8.3: Air-Bath

water enema every day to clear his bowels. Hypertension can be either functional or organic the latter is the case when the fatty substances accumulate in the smaller arteries carrying blood to the heart. The openings being smaller, the heart has to beat faster to supply blood to various organs. Hence the higher blood pressure. The blood pressure normally increases with the advance of age, due to the hardening of the arteries. Drugs advised by physicians may reduce blood pressure. But most of the drugs are harmful and some drugs have severe side effects. According to Yoga therapy high blood pressure is a symptom of the poisonous matter which causes it. Again the ingestion of fresh fruits and vegetables will be helpful. A hypertension patient should try to live on "Semistarvation" diet and fruits and vegetables should be part and parcel of his diet. The best course would be take only fruits at six hourly intervals twice a day. For a hypertensive patient breakfast should consist of oranges. lunch of guava and dinner of tomatoes or apples. Fruits like oranges, apples, pears, guava, pineapples, rose apples, musk melon are the best diet in such cases. Bananas and jackfruit should be avoided. After taking fruit diet only for one week, the patient can take cereals in his food. The best would be porridge. Since the hypertensive patient has to be on restricted diet, he should be vary careful and meticulous in the selection and rejection of food items. Foods high in exogenous cholesterol namely Butter, caviar, cream, Egg yolk fish roe and foods containing egg yolk butter, whole milk or cream cake, egg-puddings, egg noodles should not be taken. Moreover, foods which are high in fat (Endogenous cholestrol) namely avocado, Butter, cheese whole milk, chocolate, cream, cream sauces, Fatty meat, pork, fish, sasage, fats and oil of both animal and vegetable, fried or roasted foods, doughnuts, fritters, griddle cake, potato chips pastries should be avoided.

The normal dietary pattern is modified to restricted diet. A protein allowance of 1 gm per kilogram of body weight is permitted. Since the fat level is greatly reduced it is necessary to increase the amount of carbohydrate unless, as often happens, the hypertensive patient must also lose some weight. The omission of all animal fats and of organ meats means that the only source of vitamin. A is from the conversion of carotene present in green vegetables. The main obstacle to the use of the diet is its reduced taste or palatability. The hypertensive patient must become accumstomed to the eating of bread and of vegetables without salt and butter. Jelly and jam may be used on bread if there is no problem of obesity. Persons suffering from Hypertension, are required to reduce 6 "S" for healthy living., salt, sugar, spice, saturated fats, smoking, stress and strain.

# **Yogic Relaxation**

Modern man feels tense, overweight, nervous and anxious. He can neither cope with nor escape form the relentress demands of modern life. He takes recourse to "drugs", happy pills tranquilisers and beverages which may give him temporary relief and respite but in the long run, they prove disastrous to his mental and physical health. The word "tension" has been interpreted variously by various psychologists. There are almost as many feelings and descriptions regarding "tension" as there are persons who experience this type of feeling, discomfort and uneasiness. The valid and widely accepted definition is "Tension is a feeling of tightness or squeezing that occurs in organism mentally, emotionally or physically". Under tense condition, one feels tightness and discomfort. He squeezes himself mentally, and feels headache. When he gets up tight emotionally and feels uneasy, he contracts himself physically and experiences many aches and pains. It is these feelings in varying degrees that are Experienced by people during any moment.

For Hypertensive patients, rest and relaxation are of paramount importance. Yogic relaxation is not lethargy of escape. It does not mean stillness or inactivity. Yogic relaxation implies becoming much more alive and aware than one usually is. The necessity for yogic relaxation today is for more pressing than it ever was. Modern man

says. "Yes, yogic relaxation is fine but I haven't the time". He does not realise the importance of vogic relaxation which can refresh him and release his tension, nervousness, anxiety and uneasiness. In yoga controlled breathing and complete relaxation are both preventive and curative. Cicero the great philosopher has said "Relaxation is the course of creative thought, only the man who knows art of relaxation is able to create and ideas reach his mind like lightning". The art of yogic relaxation can be acquired. Everyone should know how to relax consciously for a couple of minutes everyday., so that he can feel flexed in any situation. For a layman, it is essential to know the anatomy of the muscle. In human body there are two types of muscles voluntary and Involuntary. The voluntary muscles are attached to the skeleton and allow action and movement at will. The Involuntary muscles surrounding the ducts of the body constitute the greater part of the hollow organism. These muscles relax and contract in automatic movements and are free from voluntary control. It is the nerve which stimulates the muscles to action. The muscle can be compared to an electromagnet and its nerve to the electric wire which connects it to the brain. The muscle contracts as and when it receives message from the brain. Yet a third type of muscle tissue is found known as heart muscles. This is exclusively found in the heart and is most important. It is Involuntary and yet possesses certain characteristics similar to voluntary skeletal muscle. The one characteristic which is common to all three varieties of muscle is contractibility, a muscle can alter its length and breadth easily and rapidly. Some people do jogging, warm-up, and stretching physiotherapy exercises. No doubt, these exercise are effective for some parts of the whole body. These exercises can be done anytime by anybody without any special skill. These exercises tone up the muscles and improve the digestive system. Jogging is

one of the natural ways to set the body in motion and to release tension in a vigorous way.

The premature degeneration of heart can take place because of Hypertension, sometimes, the sign of this disease is obesity. Stretching exercises or jogging force the lungs into working more and more oxygen is needed by the heart and other muscles in the body, the lungs will have to work more and more. The muscles of our body need oxygen in order to convert fat into energy. If the muscles do not make demands on the heart and lungs, these will atrophy and become weak and reduce their capacity. The circulatory system is also affected if there is no sufficient supply of oxygen from hardworking muscles. In jogging most muscles of the body particularly those in the legs are involved. The lungs are forced to breathe in more oxygen. It has been established that regular exercises and jogging increases the diameter of the capillaries considerably.

Since Yoga treats human body as a flower. In yoga relaxation Exercises strain is not involved. Yoga relaxation postures tone up not only muscles, ligaments and joints but also all parts of the body. The yogic relaxation is super relaxation which in a few minutes relieves mental tension and physical fatigue. The muscles contract as and when required in response to a message from the brain centres. During sleep man withdraws from the outside world and the conscious mind remains passive. It is only through conscious and voluntary action to disconnect more totally than in sleep those wires which lead to various electro magnets, thus reducing the consumption of narrow impulses to the minimum. This is yogic relaxation or supper response. According to yogic relaxation it is not only the mechanical silence that matters, but silence from within also. In yogic relaxation mind control the body entirely

disconnecting the conductor-wires one by one, reducing the flow of current to the electro magnets of the muscles throughout the body almost to nil. In yoga classic asanas for relaxation are Shavasana, Advasana, Makarasana and Jyestikasana. The technique and benefits of these asanas have been discussed in the chapter "Asanas".

Generally people misuse the hours of leisure, rest and relaxation. Some feel relaxed in coffee houses, clubs, bars or Dhabas, hotels and restaurants while playing cards or Idle gossips and some feel relaxed under the influence of liquor, puff or other intoxicants. Shavasana is the only Asan that provides right relaxation to our psychophysiological system. One who has mastered the art of vogic relaxation can remain relaxed in every situation. Breathing and relaxation are bound up with each other. While relaxing, mind is to be concentrated on breathing, it is not as easy as it appears to be. One has to observe where and how one is breathing. When breathing, centre of gravity should lie in the middle of the abdomen, between the navel and sternum. The breathing must be slow and rhythmic. It is said longer breaths have longer life. For Hypertension patients yogic relaxation is a great tonic. If a person suffering from hypertension practices asanas as mentioned earlier, particularly shavasan, the result would be the renewal and stabilization of nerve cells, relieving of tension mental, muscular or nervous and attaining of complete physical and mental relaxation.

# PART-VIII OBESITY

## What is Obesity?

Obesity is that physical state in which Excessive fat is stored in the body. Though it is often considered primarily a cosmetic defect, making the obese person less attractive than the person of normal weight. Obesity is essentially an anatomic abnormality that deserves the consideration accorded to serious disease. The disorder indicated by obesity is a prolonged energy balance, with resultant Excess accumulation of the formation of superflouns adipose, tissue. In obesity there is Excess deposit of fat in both normal and abnormal sites. In Extreme cases the subcutaneous fat may accede ten centimeters in thickness. Large amount of fat be found in the membranous tissues, in the area surrounding the kidney, the space between the lungs, the pericardium and membranous sac that contains the fatty infiltration may occur in the pancreas, in skeleton and in the heart muscle. The liver may be greatly enlarged and many of its cells may be filled with fat. Some times appearances are deceptive. Some persons overweight by the usual standards have Exceptionally, heavy development and are not fat. Others may be within the weight limits but their bodies may contain Excessive fat. Most physicians consider obesity to be an important factor in personal health for three reasons.

#### 1. It is common

2. It is associated with increased sickness and death rates notably in respect to heart, circulatory, kidney and metabolic disorders 3. It can be treated with success as one practical way to help control associated medical conditions.

The assumption that illness can be reduced and death delayed through the correction of obesity depends on whether two things are true. That weight reduction can and does lower the risk of disability and death and that weight reduction can be achieved and maintained. Overweight and obesity are not the same. Most overweight persons are obese. That is they have an excess of body fat that amounts to more than 15 percent over the average weight for their height and sex. It has been established that the growth of a persons body is complete upto the age of 25. There can be very little of weight gain after this age. In some exceptional cases like pregnancy, accumulation of fluids in the body (due to some problems of endocrine glands, liver kidney) or unnatural growth of bones. A human body comprises of different constituents which discharge specific functions. A body contains active cells (59%) and Fat (15%). With the advancement of age, if the physical activity decreases and the eating habits continue fat accumulates in the body. When the weight of an individual is higher at least by 10% than the desirable weight than the person is obese. Obesity is a great obstacle. Obese people are called different names like "Flesh mountain", "road rollers", "Paten Tanks", etc. They are often ridiculed by others. Obesity can be of many types. The fat distribution in the body is attributed to two types of obesity——— Android and Gynoid. Android is generally referred to male and Gynoid to female. Android type of obesity is like the shape of an apple. Among the males the shoulders, face, arms, neck, chest and upper portion of the abdomen are bloated. The stomach, arms, and shoulders give a stiff appearance. The back seems to be erect but the neck is compressed. In these persons the vital organs namely the heart, liver, kidneys and lungs are likely to be affected. Though this type of obesity is found more in males but it is found in

females also. Those females who are under harmone treatment for their menstrual disorders or after delivery are more prone to this type of obesity. In the second type of obesity, Gynoid type, the lower part of the body, gets extra flesh. This type of obesity is also common to both the sexes though it affects females more. In this type of obesity, the flesh appears to be flabby in the abdomen. thighs, buttocks and legs. But the face and neck give a normal appearance. In this type of obesity, the kidneys, uterus, intestines, bladder are likely to be affected. In the Gynoid type of obesity where the fat is stored in the hips and thighs neither diet nor any physical exercise can be much helpful. The weight reduction in the upper part of the body is faster than in the lower part. This is because the fat cells in the hips and thighs do not release much fatty acids, in the Gynoid type of obesity, the fatty acids from the cells yield only to one activity called lactation. This type of obesity is found mostly in women after childbirth. Urban women seldom feed their babies. with the result they fall a prey to the Gynoid type of obesity. Besides Android and Gynoid there is another type of obesity. Some persons do not fall in either category. Their whole body from head to toe looks like a barrel. The fat tissues in their body hinder the movements of all the internal organs.

Obesity in children is increasing these days. It is commonly found that a child born to overweight parents, has more chances to become obese. In most cases, children eat anything and everything every time. This results in obesity. Moreover, children like sweets. It is the overindulgence of children towards foods that they become prone to obesity. Some girls, due to the abnormal functioning of hormones during puberty, start gaining weight. People in business and holding high offices often fall prey to obesity. It is because business high-ups are obliged to attend parties frequently. In such parties Icecream, rich desserts, soft drinks and alcohol are served.

This causes obesity. There are persons who have little or no work to do, nor do they have any interest in physical exercises. Such persons enjoy overeating and they fall prey to obesity. Some girls who used to be slim before their marriage, gain weight after marriage. This is due to either changed eating habits or eating rich food. They enjoy more carefree and comfortable life which can be contributory factors in obesity. Some mothers despite normal delivery, gain weight because they take fatty and starchy food and they are made to rest more than it is necessary. They fall prey to obesity. Then there are women who use contraceptive devices on a regular basis also tend to become obese.

Endocrine glands produce some chemical substances in out body. Those chemicals are called hormones. These glands pour internal secretion into our blood. The glands that function in the unique way can cause obesity. Moreover addiction to food can also be a contributory, factor in obesity. Different people have addiction to different foods some are addicted to carbohydrates in the form of rice, some to sweets, some to spicy food, and some to fast food. In addiction people take more and more food which they like more. The more one eats, the more one relishes the food. This carving for particular type of food can cause obesity.

## **Causes of Obesity**

With the changing life style, sumptuous food and lack of exercise, obesity is increasing day by day. Before discussing the causes of obesity, it is better to distinguish between Hunger and Appetite which are closely associated with food. Both are different concepts. Hunger is generated by the body mechanism or by the digestive system. In its process, two symptoms are involved. 1. By hunger contractions of the stomach. 2. By salvia secretion in the mouth. Appetite is a psychological concept. It depends upon a person's knowledge about food, its smell, colour etc. Sometimes a person likes to eat even if he is not hungry. On the other hand sometimes a person's hunger dies if the food offered to him is not of his liking. Both hunger and appetite induce a person to eat more and more with the result a person falls prey to obesity.

Psychological (Emotional) factors are operative in every person whether he is obese or not, there does not appear to be a single psychological problem peculiar to the obese state, nor one common to all obese persons. However psychological factors may cause overweight, or help to maintain it through their influence on dietary habits. The role of psychic and emotional factors must be assessed especially when anxiety is a conspicuous

feature and the person eats more calories than proper hunger calls for. Attempts at weight reduction may have adverse psychological problems. A person having average health generally takes just enough food to meet the requirements of his energy. As a result of this his weight remains stable. But when this balance is not maintained the weight does not remain stable. It is universally acknowledged that it is that imbalance between the food intake and energy expenditure which can cause obesity.

The question of the role of genetic factors in obesity is debatable. Different Experts have given different views on this subject. If both the parents are fat, 75% of their children are also fat. It is a fact that every individual inherits his physical constitution. The structure of the body is closely associated with obesity. Some Experts are of the opinion that some individuals inherit only the structure. But in such cases obesity develops due to eating habits, style of life and environment.

Among the current developments in the Management of obesity is the role of physical exercises. Physical activity is a major factor in the treatment of obesity. Lack of physical exercises has been a major factor in the cause of obesity. Today, fortunately for fitness as well as for fatness, Yogasans have been emphasized for restoring health and reducing weight. Physical Exercise or yogasans are advocated for weight control for three reasons:-

- 1. They help expend calories.
- 2. Within the usual range of activity. Physical Exercise need not stimulate a corresponding increase in appetite.

3. The energy output required to offset a pound of fat is approximately 3500 calories, but the weight need not be lost in a given time period.

Yogasanas also tone up physical, mental psychological and social fitness. It provides an outlet for emotional tensions and promotes self-confidence. Today it appears that some people don't eat to live but they live only to eat some people eat not only to satisfy their hunger but to enjoy delicious dainties and sumptuous food. Psychological factors play a great role in causing obesity. In some persons stress, depression and tension generate a tendency to eat more and more, smoke more and more, drink more and more leading to obesity.

Obesity is seldom found in those who lead active lives or follow occupations demanding hard physical exercise. Physical activity plays a vital role in the aetiology of obesity in infants and children. With the mechanisation of industry and the widespread use of motor vehicles the proportion of people who take adequate exercise has declined and the number of sedentary workers has increased. Hence, inactivity can be an important factor in overweight.

Endocrine factor is another important cause for obesity. In some cases, disorders of endocrine glands has been the cause of obesity. Though some Experts are of the opinion that malfunctioning of endocrine glands is rarely a cause of obesity. Accumulation of fat is found in such cases. It has been found that inadequate secretion of thyroid gland brings down the metabolism of fat and creates obesity. Sometimes Cushing's syndome can also cause obesity in middle aged women. In this case fat accumulates on head, trunk and around neck. Less secretion of testicular hormones can also sometimes cause obesity. In such cases, fat accumulates

on their chest, buttocks and thighs. Sometimes in some women disorders of ovarian secretion can also cause obesity.

Food is the one source of the excessive fat. The fat contained in the food gets deposited in the "fat store" of the body from where it is made available as and when required. The fat is produced from carbohydrates and proteins. This process generally occurs in the liver. In the body of a obese person, fat is produced but not eliminated and therefore his weight goes on increasing. Carbohydrates are harmful for obese person. Of great importance, but commonly ignored is the timing of meals. Frequent meals also affect metabolism. The production of fat increases too in a large quantity. High levels of glucose and Insulin produced in the blood are responsible for this. This production of fat sharply. If a person takes meal at night. A healthy woman may be Expected to gain about 12.5 Kg. during pregnancy. About half of this represents the weight of the foetus, placenta and uterus. Water retention in the tissues may account for 1-2 Kg. The remainder can be attributed to an increase in adipose tissue, which serves as a store against the future demands of lacatation. Many women gain more and retain this extra weight after the termination of lactation, thus becoming more obese with each succeeding child.

There are different views and contradictory reports about metabolic disorder causing human obesity. Never the less, there may be in addition to overeating and lack of Exercises and unknown physiological mechanisms which regulate the metabolism of the tissues. The basic fact is that obesity is always due to a greater consumption of food than the individual requires.

Table 2.1: Average Weights for Men and Women According to Heights and Age

Heights		Weight in Pounds (in indoor clothing)					
(ın shoes)*	Ages 20-24	Ages 25-29	Ages 30-39	Ages 40-49	Ages 50-59	Ages 60-69	
			Men				
5ft 2m.	128	134	137	140	142	139	
5ft 3ın	132	138	141	144	145	142	
5ft 4in	136	141	145	148	149	146	
5ft 5in.	139	144	149	152	153	150	
5ft. 6ın.	142	148	153	156	157	154	
5ft 7m	145	151	157	161	162	159	
5ft 8ın	149	155	161	165	166	163	
5ft. 9ın	153	159	165	169	170	168	
5ft 10ın	157	163	170	174	175	173	
5ft. 11m	161	167	174	178	180	178	
6ft Oin	166	172	179	183	185	183	
6ft lın	170	177	183	187	189	188	
6ft. 2ın.	174	182	188	192	194	193	
6ft 3in	178	186	193	197	199	198	
6ft. 4in.	181	190	199	203	205	204	
		,	Women				
4ft. 10ın.	102	107	115	122	` 125	127	
4ft. 11m.	105	110	117	124	127	129	
5ft. Oın	108	113	120	127	130	131	
5ft. lm.	112	116	123	130	133	134	
5ft. 2in.	115	119	126	133	136	137	
5ft 3in.	118	122	129	136	140	141	
5ft. 4in.	121	125	132	140	144	145	
5ft 5in	125	129	135	143	148	149	
5ft. 6in.	129	133	139	147	152	153	
5ft 7ın.	132	136	142	151	156	157	
5ft 8ın.	136	140	146	155	160	161	
5ft. 9in	140	144	150	159	164	165	
5ft. 10in.	144	148	154	164	169	ŧ	
5ft. 11in.	149	153	159	169	174	†	
6ft.0ın	154	158	164	174	180	ŧ	

<sup>\* 1</sup> in. heels for men and 2 in heels for women

Table 2.2: Desirable Weights for Men and Women according to Height and Frame. Ages 25 and Over

Heıghts (ın shoes)'	Weight in pounds (in indoor clothing)			
	Small frame	Medium frame	Large frame	
	3	den.		
5ft 21n	112-120	118-129	126-141	
5ft. 3ın.	115-123	121-133	129-144	
5ft. 4ın	118-126	124-136	132-148	
5ft. 51n.	121-129	127-139	135-152	
5ft. 6ın	124-133	130-143	138-156	
5ft. 71n	128-137	134-147	142-161	
5ft. 81n.	132-141	138-152	147-166	
5ft. 9ın	136-145	142-156	151-170	
5ft. 10ın.	140-150	146-160	155-174	
5ft. 11ın	144-154	150-165	159-179	
6ft. 0ın.	148-158	154-170	164-184	
6ft. 1in.	152-162	158-175	168-189	
6ft 2in	156-167	162-180	173-194	
6ft 3in.	160-171	167-185	178-199	
6ft 4ın.	164-175	172-190	182-204	
	Wo	men		
4ft 10in.	92-98	96-107	104-119	
4ft. 11m.	94-101	98-110	106-122	
5ft. 0ın.	96-104	101-113	109-124	
5ft 1m.	99-107	104-116	112-128	
5ft 2in.	102-110	107-119	115-131	
5ft. 3in.	105-113	110-122	118-134	
5ft. 4in.	108-116	113-126	121-138	
5ft. 5in.	111-119	116-130	125-142	
5ft. 6in.	114-123	120-135	129-146	
5ft. 7in.	118-127	124-139	133-150	
5ft. 8ın.	122-131	128-143	137-154	
5ft, 9in.	126-135	132-147	141-158	
5ft. 10ın.	130-140	136-151	145-163	
5ft. 11in.	134-144	140-155	149-168	
6ft.Oin.	138-148	144-159	153-174	

<sup>\*1</sup> in. heels for men and 2 in. heels for women.

## **Obesity Related Diseases**

Obesity and a lot of Extra weight can be hazardous, obesity can cause many disorders and disease in one's life. Obesity is the most common nutritional disorders in infants, children and adults. Obesity can occur at any age and in either sex but after puberty it is more common in women than in men. It is especially liable to arise after pregnancy and at the menopause.

- 1. Metabolic disorders:- Obesity is related to a number of metabolic disorders. Diabetes mellitus arising for the first time in middle life occurs most commonly in obese people. Obesity is often associated with an elevated level of cholesterol in the blood plasma, perhaps in consequence obese people develop stones in the gallbladder more frequently than those of normal weight. Another site where cholesterol is deposited is the intima arteries, producing atherosclerosis. Atherosclerosis is a condition which principally affects the aorla, large arteries and certain medium sized vessels particularly the coronary and cerebral arteries. It becomes increasingly common as age advances. Although often associated with hypertension atherosclerosis may be advanced even in normal blood pressure.
- 2. Cardiovascular:- The work of the heart is increased by the extra mechanical effort needed in moving the

overweight body and by an increased peripheral vascular resistance in patients with hypertension. This extra load on the heart, coupled with the tendency to atherosclerosis in the coronary arteries no doubt accounts for the liability to angina pectoris and cardiac failure among obese people in middle life.

- 3. Mechanical Disability:- The structure of the human skeleton is not well adapted to carry an extra load consequently flat feet and osteoarthrosis of the knees, hips and lumbar spine are more common in obese people than in those of normal weight. The abdominal muscles that support the viscera and those in the legs which help by their contractions the venous return of blood to the heart, are infiltrated with fat. Hence their normal mechanical action is impaired. A close association has been established between obesity and the frequency with which hiatus hernia occurs.
- 4. Psychological:- Aesthetic considerations are sufficient to make many people aware of the threat of obesity and anxiety to avoid it. Those who do not succeed become unhappy. Thus obesity sometimes creates psychiatric problems in addition to any that may have been responsible for it.
- 5. Stroke:- Stroke has come to mean a variety of things but in general the term refers to sudden brain damage caused by a hemorrhage or clot formed by hardening of the vessel walls, or an embolus, a clot that gets into the blood stream from another diseased or injured part and blocks a brain artery. The brain area affected stops functioning and causes the symptoms related to this loss of function. Stroke effects not only older people but it causes death and disability to the people between the ages of 30 and 50. An obese person is prone to strokes when he happens to fall.
  - 6. Fractures and Accidents:- Obese persons are often

slow and lethargic and therefor liable to accidents. At work they have difficulty in avoiding the moving parts of machinery and in the crowded streets they cannot quickly escape the traffic. A lean person does not get hurt as badly as an obese person does. Sometimes an obese person runs the risk of breaking his leg or arm when he falls down.

- 7. Constipation and Piles:- Persons who are overweight often suffer from constipation and piles problem. Constipation sometimes causes piles among obese persons. An obese person is more prone to these problems than a normal weight. Moreover the excessive deposit of subcutaneous fat predisposes to skin infections in the obese particularly at the flexures.
- 8. Osteoporosis:- Obesity can cause another diseases known as osteoporosis common mostly in women. According to this disease there is steady degeneration of bones between the age of 30-40 especially in women. This degeneration continues till menopause since the body needs calcium for other activities, it tends to restore the calcium from the bones, thus the calcium level in the blood drops low. Consequently the bone becomes porous with a spongy appearance. This is called osteoporosis. During the period of menopause the production of the hormone oestrogen decreases rapidly. Hence the ability to absorb calcium becomes weak. Even the intake of calcium in the form of pills does not improve the condition. In case of obesity, over burdened joints aggravate the condition. The hazards of obesity can be described as the Five D's:- disfigure, discomfort, disability, disease and death.

## **Anti Obesity Diet**

Every precaution is to be taken in the diet of the patients of obesity. Food should not be taken if there is no appetite. In sufficient hunger also one should not take too much fresh food or fat food. If the appetite in the morning is quite strong only some ripe fruits should be taken. If the fruits are not available, a cup of light milk without sugar is a better substitute. Tea, coffee should be avoided. If necessary, it should be a single cup only in the morning. The mid-day meal should consists of little rice but sufficient vegetables and dal. If the patient is above fifty, he should not take fish, meat, ghee, butter, fats and spices, sweets, icecream.

Which ever diet is used, it is necessary for the patient to understand the physiological principles on which anti-obesity diet is based. Energy out put has been determined with great accuracy for people undertaking various activities. To keep in caloric balance a person doing sedentary mental work will require about 2000 keal daily, a person doing light work requires 20500 keal, while a person doing heavy physical work needs 4000 keal. Dietary requirements therefore vary from person to person according to occupation and nature of work. The protein content of the diet should be sufficient to maintain nitrogenous equilibrium. The concept has recently been advanced that protein calorie malnutrition especially in early childhood should be



Fig 4 1 Yogic Diet

regarded as a spectrum of disease. The incidence of protein calorie malnutrition in its various forms is high in India. This is the most important dietary deficiency disease in India, affecting as it does millions of children. The intakes of foods rich in carbohydrate should be drastically reduced since overindulgence in such foods is the common cause of obesity. There have been some fears and apprehensions that reduction of carbohydrates may cause ketosis to obese people. But these fears are unfounded. In fact obese people seldom develop symptoms of ketosis.

Fat is essential for the body it keeps up the body temperature. Walking would be a difficult job but for the soft pad of fat beneath the feet and the same of the accumulated fat on our buttocks and at the joints for which our body can function properly. But excessive fat or accumulation means a disease. A diet providing 1000 keal and containing 100 g carbohydrate and 50 - 60 g of protein cannot include more than 40 g of fat. This allowance of fat, though small is sufficient to make the diet acceptable to the patient. The popular saying "Fat diets are bad diets" is true for everyone.

The food is of paramount importance in the cure of disease. Sir Robert Mccarison has rightly said. "The right kind of food is the most important single factor in the promotion of health, and the wrong kind of food is the most important factor in the promotion of disease". The foods we eat contain vitamins, minerals and amino-acids besides other nutrients. These elements are responsible for health and longevity by imparting vigour and vitality to the body. Vitamins and minerals though needed in small quantities govern many vital functions connected with metabolism and reproduction. A balanced diet for obese persons should contain plenty of green vegetables and fruits since they contain few calories while their bulk helps to fill the stomach and relieve hunger. They also relieve constipation which is a common trouble on a low food intake. Their vitamin A and vitamin C will be sufficient to meet the body's needs.

Then there are minerals which our body needs. Minerals are inorganic substances like sodium, potassium chorion, calcium, phosphorus, iron, cobalt and copper. They are classified into two types major and minor based on the intake level. Minerals are also important for health. Like vitamins they are needed for the proper functioning of cells. The minerals which need serious consideration are calcium and Iron. There was a time when obese people were

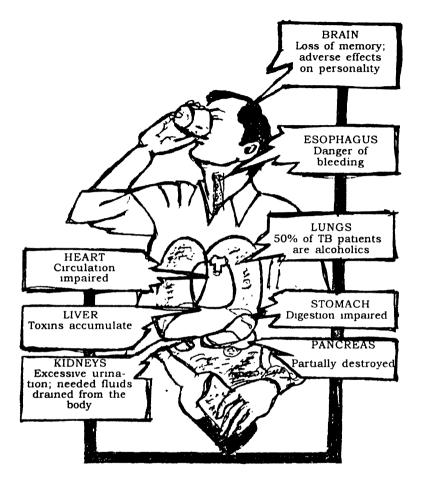


Fig. 4.2: Effects of Alcohol

advised to restrict their intake of water, but there is no sound reason for keeping fat people thirsty. Plain water and unsweetened tea can be taken by obese people. Alcoholic drinks, ice cream, sweets, fried things should be avoided by persons suffering from obesity.

There is a Chinese popular saying "Any disease enters through the mouth". But people do not take it seriously obesity has been called" a nutritional error" a disease caused by over-nourishment and nourishment.

Fasting occupies a place of great importance in all the major religions of the world. But fasting is not confined to religion alone people have observed fasting for physical reason as well. Many nature-cure experts have declared fasting to be real panacea. Fasting can be described as a ritual abstention from food and drink for varying periods of time. Fasting is both science and art. It influences our emotional and psychological state of mind. In reality fasting aims at all round development and well being of our life. Fasting, if practised scientifically, can grant soundness to our physical and mental health. Fasting also aims at toning up health, decreasing weight, strengthening will power. Fasting is the best mode of Internal cleanliness. After observing a fast, one has a clear vision, and interest in physical and mental activities is stepped up. Strength and energy are fully developed. Fasting provides an opportunity to the body weight and also the blood cholesterol level. As during this period, the frequency of food intake is reduced. If the diet is not very rich in fat, the overweight people can bring their weight down. Without feeling the stress of dietary control.

Starchy foods are commonly known as carbohydrates, as they consist of chemical compounds of carbon with oxygen and hydrogen in proportion to form water carbohydrates are divided into sugars, glucose etc. People who know nothing about dietaries "Preach" cutting out all carbohydrates". But it is not advisable, even if one wanted to because carbohydrates are essential for health. So much of our food consists of carbohydrates in some form that if we eschewed it there wouldn't be much to live on except fats, proteins and vitamins. There is some carbohydrate in every vegetables food that we eat though only those with 20 percent or

more carbohydrates in them are termed starchy foods, rice, potatoes, flour and products made from these. We normally eat more of them than of flesh, cheese, eggs, because they are cheaper and more filling. Age does not cause overweight is the result of over-eating and lack of exercise. The glands however, do determine where the fat shall be deposited. Hypocrates, the father of medicine once remarked, "Fat men die suddenly". This is still true not in every case, But sudden death occurs often in fat people who are sluggish and steadily gaining weight. It is said, "The longer your waist line, the shorter your life line". It is important for one to watch one's weight, not allowing oneself to become too thin or too fat, but trying to remain near the Ideal. All overweight persons are not obese, but most of them are. In reducing obesity the role of salt and water is important. About 50 to 60 percent of our body weight is water. The muscle tissues of our body are rich in water whereas fat tissues contain very little water. The water loss through urine, sweat etc. can be replaced by correct eating and drinking habits. When carbohydrates, proteins and fats are converted to energy, water is produced and retained in the body. We feel thirsty immediately after eating salty food. If salt intake is reduced and water consumption increased, the excess salt taken through natural food is expelled through urine. Fresh natural food can contribute in losing weight. Raw vegetables like cucumber, tomatoes cabbage, some leafy vegetables, fruits are some of the natural foods which can help in losing weight and reducing obesity. Those who are serious in reducing weight and in reducing obesity are well acquitted with the term Fletcherism. Horace Fletcher of the U.S.A. was the founder of Fletcherism. He was abnormally overweight. At the age of 40, he was sixty pounds above the normal weight. He was suffering from many ailments and diseases. After deep study, he came to the conclusion that retaining the food in the mouth and chewing the food at least 20 times has a positive effect in reducing

weight. His innovative method of reducing weight was called Fletcherism, Hence Fletcher has suggested some rules for reducing weight.

- 1. The first rule according to him is masticulation. The food must be chewed 20 times. The food should not be swallowed until it has been chewed properly.
- 2. His second rule states that one should not eat when one is upset, worried or under stress or tension. The digestive enzymes are not released when the mind is under stress or tension.
- 3. His third rule is that one should not eat if one is not hungry. The meals must be taken well in time. After lunch, rest a while and after dinner walk a while is an old saying.

It was not Fletcher alone, but many people succeeded in losing weight after applying Fletcher's formula.

Since obesity is caused by an intake of calories beyond the body's need for energy. Overweight in many persons is the result of family customs in using concentrated high calorie foods, or having to maintain social relationship including rich party foods or eating excessive amounts of carbohydrate because these foods are cheaper. Numerous persons continue to gain weight through out life because they fail to adjust their appetites to reduced energy requirements. This situation may occur in several circumstances.

- 1. The energy needs of middle age are less than those of youth.
- 2. Changes in occupation may result in reduced activity.
- 3. The middle years of life sometimes bring about a repose and consequent reduction of muscle tension.
  - 4. Periods of rest and sleep may be altered.

5. Disabling illness such as arthritis or cardiac disease may reduce markedly the need for calories.

Recent years have brought an increasing awareness of the psychological aspects of obesity. Many doctors emphasise that eating is a solace and a pleasure to the Individual who feels lonely or unloved or who has become discontented with his family, social or financial standing, has experienced grief, agony, pain or needs an Excuse to avoid the realities of life.

Diet, in itself will not prove so helpful unless the patient has been motivated for losing weight. A person suffering from obesity has to take seriously restricted or modified diet. The objective of a modified diet should be, 1. To maintain or restore good nutrition, 2. To correct faulty food habits. The low-calorie diet should permit the use of everyday foods in a reasonable variety and at moderate cost. It should promote a sense of well being and be palatable. Many persons who adhere to the modified diet have had prolonged deficiencies of several nutrients. Moreover, studies on young women have shown that weight reduction in itself imposes considerable stress on the body. If the patient learns to use modified diet, it is not necessary to provide specific list of foods calorie consciousness by providing list of the concentrated foods which must be especially watched:-

- 1. High-fat foods:- Butter, Ghee, Cheese, Chocolate, Cream, Ice-cream, Fat meat, Fatty fish, Fried foods, Roasted foods, Potato chips, Gravels, Nuts, Pastries and Doughnuts.
- 2. High-carbohydrate foods:- Bread of any kind, Candy, Cake, Cookies, Corn, Noodles, Pancakes, Waffles, Dried fruits, Lima Beam, Navy bears, Dried peas, Potatoes, Sweet potatoes, Sugar, Sirup, Rich puddings.
- 3. Beverages:- All fountain drinks including malted Milks and Chocolates, Rich sundaes, Alcoholic drinks.

## Yoga—A Brief Introduction

The human frame is mere Earthenware Bake it with the flame of yoga fire.

-Gheranda Rishi

Yoga means "to yoke", "to unite", "to bind', "to link" or "to merge". As a yoke joins two bulls together, yoga joins body and mind together. The merger of soul with God and the Experience of oneness with Him ---- is yoga. According to the great sage Patanjali "The withdrawal of sense organs from their worldy objects and their control is yoga".

The aim of man's life is to get rid of the worries, anxieties and sufferings of the world and to achieve peace and bliss. To get rid of the tempting delusions sorrows, pains and diseases of the world, there are different paths of yoga namely Bhakti Yoga, Karam Yoga, Jnana Yoga and Hatha Yoga. The paths may be different but the ultimate aim is the same. Our body has been compared with a temple. We must keep this temple neat and clean. According to Shankracharya we can see the image of God in our own body if maintained pure and free from disease. Just as the mirror in spotless condition, gives clear reflection, the body and mind if maintained pure and healthy can lead up to success

yoga is a science of physical and mental control. If can be a means of acquiring a slim, supple and healthy body. It can also be a way to achieve inner tranquility. Our ancient Rishis and sages have given eight aspects of yoga which are:-

#### 1. Yama (Social discipline)

Yama means self restraint. It is the first stage of yoga. Yama suggests five normal practices mentioned below:-

#### a. Non-violence (Ahimsa)

Non-Violence means not to cause injury or not to hurt any creature mentally or physically through thought, word or action.

#### b. Truthfulness (Satya)

Satya or Truthfulness means saying Exactly what one sees with one's eyes, hears with one's own ears and understands through one's own brain. It suggests both internal and External truthfulness.

### c. Celibacy (Brahmacharya)

It means to keep one's sense organs under control and not to be allured or tempted by the sensual or lustful enjoyments through word, thought and action. Brahmacharya also suggests moderation in sex between married persons.

### d. Non-Greed (Aparigraha).

Hoarding of wealth and means of sensual pleasure and other materials of enjoyment is parigraha while the absence of these is aparigraha.

## 2. Niyama (Individual Discipline)

The second aspect of Asthanga yoga is Niyama. The Niyama is of five kinds:-

a. Shaucha (Purity):- It means both Internal and external purity. The body can be kept clean and pure by

sattwic food and six types of yogic purifications i.e., Neti, Dhauti, Basti, Nauli, Trataka and kapalbati. Mind can be kept pure by abandoning six enemies. Lust, anger awarice, temptation pride and vanity.

- b. Santosha (contentment):- It implies that one should feel satisfied with whatever one gets while doing one's duty truthfully.
- c. Tapa (Austerity or penance):- It implies conquest of all desires and sensual pleasures by maintaining purity in thought word and dead. It also means keeping the mind detached and under control to bear pain and pleasure, heat and cold with equanimity.
- d. Swadhyaya (self-study):- It means self-introspection and study of scriptures and sacred books to gain real knowledge. It also suggests spending of one's time, in the company of spiritual teachers and Exchanging Ideas with them.
- e. Ishwara Pranidhana (Surrender to God):- It suggests pure and complete dedication to God. It is the total surrender of self and property to God.
- 3. Asana (Posture):- The first physical aspect and third stage in Ashtang yoga is Asana. Any posture that is performed steadily and with ease is called Asan. Asanas are for the control of the body and mind, purification of our mind, veins and nerves and promotion of general health of the body. Asanas tone up the internal and external organs of the body and give energy, vigour and vitality.
- 4. Pranayama (Breath control):- Prana is the vital form which pervades the whole cosmos. It is in all things whether animate or Inanimate. Prana is more subtle than air and can be defined as energy that is within everything in the universe. Pranayama is series of techniques which control the normal breathing and

which stimulate and increase the vital energy. The prana in the body is divided into five elementary parts collectively known as panch pranas. They are pranaapana, samana, udana and vigana. Pranayama activises the entire nervous system and develops latent powers of man.

- 5. Pratyahara (Discipline of the senses):- It means withdrawals of the senses from outside objects and projecting them inwards. The practice of pratyahara brings the senses under control, purifies the mind and develops austerity and concentration.
- 6 Dharna (Concentration): When one succeeds in maintaining focus of attention continuously, it becomes dhyana (Meditation). Dhyana purifies the mind of Rajas and Tamas gunas and lights the mind with sattwaguna.
- 7. Dhyana (Meditation):- It means focussing of the mind on an internal or External objects.
- 8. Samadhi (Sclf-realisation):- The last stage of Ashtang yoga is samadhi. At this stage one attains the state of super consciousness and perfect calm. In samadhi the mind loses the sense of duality with the object of concentration. The Dharna, Dhyana and Samadhi are called samyanas (The Internal Yoga). The first five stages---Yama, Niyama, Asana, Pranayama and Pratyahara form the external yoga. If all the eight stages of Ashtang yoga are practised, the practitioner gets all round progress in life, physical, Intellectual and spiritual

## Pranayama (The Science of Breath)

Pranayama means the rhythmically breathing exercise by which lung motions, nerve-currents and mind functions are regulated. Different, people have given different interpretations of pranayama. Some say that prana means breath and yama means its control. Others feel that prana means vital force and yama means controlling it. Prana is the cause of nerve-currents which are in turn cause of breathing. It is the nervecurrents which make the different organs of the body work and change the food and drink into chyme and chyle, the coarse parts into blood, flesh, fat, bone, semen and ojas. It is the prana which is the cause of the different functions of the mind such as thoughts, feelings and desires. In order to know the functions of prana, one has to purify one's mind. In order to stop leakage or wastage of prana shakti one has to exercise control over speech, thoughts, desires and emotional feelings. The conserving of nerve energy inside the body produces abnormal heat and prana shakti gets heated and it tries to force its way out. All sexual thoughts when controlled, the shakti is then led to force its way upwards through Sushma Nadi. Whatever food or drink is taken, the pranashakti assimulates its effects within a few minutes. It the heat produced by the food or drink is abnormal way

That is what happens when one takes a heavy drink or poisonous food.

The technique of pranayama is only an attempt to stop all the activities of the nerve-currents and their leakage. Of the different paths recommended by the different religions of the world, Pranayama is the one adopted by the yogis to understand the secrets of prana. Breathing takes place as result of the vibrations of nerve currents in the lungs. The nerves get their energy from the prana.

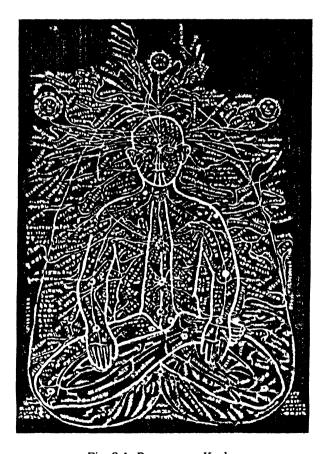


Fig. 8.1: Pranayama Kosha

The science of pranayama can be dealt with under three heads:-

- 1. Pranayama as a physical and mental Exercise.
- 2. Pranayama as a purifier of body, nadis and mind.
- 3. Pranayama as a healer of diseases.

Pranayama can be divided into two classes i.e., Lower and Higher pranayama, the former being meant for physical and mental health and the latter for higher spiritual attainments. Breathing i.e., high breathing middle way breathing and low breathing. In high breathing, the upper part of the chest, the lungs and the lower part of the lungs are moved. In this kind of breathing, the maximum amount of air enters the lungs with the maximum of efforts. The middle way breathing is better than high breathing normally people in normal health breathe in this way. Low breathing is the best and most efficacious way. In this kind of breathing, the movements of the diaphragm play and middle part of the lungs. But during the practice of Pranayama, all the three kinds of breathing are involved. At each inspiration, the maximum quantity of oxygen is drawn in. It is then made available to be absorbed by the system during the time of retention, while during the time of Expiration, carbon dioxide is removed fully from the lungs. So purka (Inspiration), Kumbhaka (Retention), and Rechaka (Expiration) play very significant role in Pranayama. Pranayama is a scientific mental and physical exercise. In this exercise, the diaphragm, the abdominal muscles get good exercise by controlled movements and by their alternate contraction and relaxation. The heart, lungs and digestive organs like stomach, liver and the nervous and the endocrinal system, like the brain, the spinal cord, spinal nerves and glands get the massage. It helps to normalise the circulation of blood. Pranayama destroys all signs and develops the working capacity of the lungs, the heart,

the liver and other important internal organs. If one practises Asans and pranayama regularly for long one will find that they act as curatives and preventives for various kinds of physical and mental ailments. As an indication of good physical and mental health, one should look forword to the following symptoms:-

- 1. The body will become light.
- 2. The Intellect will turn sharp and clear.
- 3. Memory will grow strong.
- 4. Will power will increase.
- 5. Bodily fat will be reduced.
- 6. The belly will no longer project.
- 7. The face will look serene.
- 8. The eyes will glow bright and lustrous.
- 9. The voice will turn sweet.
- 10. Urine and faces will diminish in quantity.
- 11. The senses will become subdued.

After six months of regular practice, wonderful change will be apparent.

Now we come to the complete and scientific course of pranayama exercises for persons who are suffering from obesity and overweight. These exercises will prove highly beneficial if done regularly with patience and determination.

#### Exercise No. 1

Sit in Sukhasana or Padamasan on a folded blanket with head, back and neck in a straight line. Close the right nostril with thumb and slowly inhale through the left nostril with ease and comfort. Then exhale through the same nostril. Do this at least ten times.

Then inhale through the right nostril by closing the left nostril with ring finger of the right hand inhale and through the right nostril in the same manner as done previously.

#### Exercise No. 2

In the same sitting posture, close the right nostril with the right thumb and inhale through the left nostril. Then close the left nostril with the right thumb and inhale through the right nostril. Then inhale through the right nostril and retain breath for a couple of seconds without any strain or jerk. Then do it with left nostril. In this exercise, the period of retention of breath should be increased gradually. Then relax for a couple of seconds.

#### Exercise No. 3

In the same sitting posture, Inhale breath from both the nostrils and retain breath for a couple of seconds and exhale breath from both the nostrils. Power and strength lies in the retention of breath. The period of retention should be increased gradually by seconds. Do this exercise at least for 10 times and relax.

#### Exercise No. 4

In the same sitting posture, Inhale and Exhale breath quickly atleast six times and then retain breath for a couple of seconds. After retention exhale breath slowly and rhythmically. Do this exercises at least 10 times and then relax for a couple of seconds.

### Exercise No. 5

In the same sitting posture, contract your lips and fold your tongue like a tube, and protrude your tongue beyond the lips and draw air through the tongue tube, making a hissing sound. The lungs and stomach are filled slowly with the air drawn in and the air inhaled should be retained as long as the practitioner can

without any suffocation. Then both the nostrils. This exercise must be done 12 to 18 times.

This pranayama exercise gives great tenacity of life to the practitioner. If banishes all type of fevers and many organic diseases. If also removes many poisonous impurities and purifies the blood. This exercise reduces obesity and over weight.

#### Exercise No. 6

Sit as usual in Padamasan or Siddhasan and fold the tongue in such a manner that the tip of the tongue touches the upper palate and draws air through the mouth with a hissing sound. Exhale air through the nostrils. After inhaling retain breath for a couple of seconds. The period of retention should be increased gradually by seconds, and then relax.

This exercise also removes superfluous flesh from the hips and abdomen and reduces obesity and over weight.

# **Vyayam Exercises and Sports**

Every parent is conscious of the fact that play is very important for the young child. Through play, the child gains physical strength, develops physical skills and establishes relationship with his parents, brothers sisters and friends. It has often been said that the child who does not want to play is sick and that the child who does not have a chance to play cannot grow physically in society. But the values of play and recreation are not restricted to the young. All ages need relief from boredom. relaxation from tension and the self-fulfillment found in recreation wholesome physical play can contribute to physical, mental and emotional health. Satisfying to one person may seem like work to another, and what may appeal to a person at one age may bore him at another. Recreation is more a state of mind than a particular activity.

Vigorous physical activity helps to develop muscles, and physical strength makes an important contribution to daily activities. More importantly, the heart is a muscles it is strengthened and improved in its function by any form of games and Exercise. Exercise also enables the lungs to increase their ability to take in air and to utilise more efficiently the oxygen which they extract from this air. All levels of activity depends on the capacity of one's heart, blood vessels, and lungs to perform with maximum efficiency. In general, harder the work, the greater will be the benefit to the body. One way to

determine the relative demands which different kinds of exercise place on the body is to compare the number of calories which the must burn each minute to support these exercises. The calorie is a unit of heat used to measure energy in studies of metabolism and physical activity. The following table shows calories burned per minute for common recreational sports. All these sports can be played Individually, with a partner or a group. They can be started early in life and continued to an advanced age with slight modifications.

Sport	Cal/Min.	
Horseback riding	3.0	
Volley Ball	3.5	
Walking (2.5 mph)	3.6	
Bowling	4.5	
Skipping	4.6	
Cycling (5.5 mph)	4.7	
Golfing .	5.0	
Swimming	5.9	
Rowing	5.7	
Skating	6.0	
Table Tennis	6.0	
Tennis	7.1	
Cycling (13 mph)	11.0	
running (10 mph)	15.0	
Football	12.0	
Hockey	14.0	
Rowing (race speed)	14.0	
Badminton	13.2	

Some sports are more suitable to one season than another. Some are indoor, others outdoor activities and some are both. In many instances the possibility to enjoy them depends on the availability of facilities. Each person should try to select those recreational activities which are most suitable for his regular participation based on convenience of location, the prevailing climate and the time and Expense involved.

Skipping, running, physical Exercises, cycling are the best activities for reducing over weight and obesity. Skipping with a rope has been found to be very useful for reducing obesity. Skipping provides basic components like speed, strength and endurance. By using the rope one can achieve a good level of physical fitness without spending much on the equipment. One really enjoys doing exercises on the rope. Exercises with the skipping rope are very helpful for achieving higher standards of performance.

Running deserves greater popularity since it is a natural Exercise which requires no special equipment.

A place to run can be found almost anywhere and it can be carried on throughout the year. Running is the best exercise to develop the functions of the heart and lungs. It also exercises the shoulders and arms as well as the legs. Walking is a matter of necessity but too often neglected in this automobile age. Walking can be a very enjoyable recreational exercise. Long distance walking at a measured pace is frequently referred to as hiking. When undertaken cross country or in the hills, it is in excellent conditions, developing the heart and lungs as well as exercising the legs, back and aims.

Once the most popular recreational activity for young and old-- as well means of transportation----cycling has

suffered from the development of automobile travel. Moreover riding today is dangerous on city streets and even on country roads. No special equipment besides a bicycle is necessary. Cycling exercise mainly the leg muscles, but the back and shoulders also participate especially at faster speeds. Cycling is a great exercise for building up endurance and can be carried out for this purpose on a life long basis.

The fundamental purpose of sports is to promote through selected physical activity, the establishment and maintenance of health, attitude, ideals, drives and conditions which enable each Individual to establish a pattern of living that provides satisfactory self-Expression and adjustment through Individual accomplishment and that contributes to group welfare through home, community and state. To promote physical growth, development and maintenance through activities that develop strength, vigour, vitality, stamina and skills. To contribute to the development of social competence in the areas of relationship with others. Cooperation, competition, tolerance and recognition of the fundamental worth of each Individual.

# Warm-up-Vyayam Exercises

Most of the books, written on yogasans are silent about warm up exercises. The Importance and utility of warm-up exercises cannot be underestimated. The perfection in Asana, warm-up exercises increase mobility in all joints so that muscles can move with ease and freedom. The exercise should be done regularly rhythmically with easy long stretching movements without vigorous jerks. The following exercises must be done before doing Asans.

### Vyayama (EXERCISES) Chart - 1

#### Exercise 1



Stand erect, raise your arms upward keep your feet astride. Bend forward the upper part of your body to floor then stretch your body upward and backward and sideways. Repeat it 5 to 8 times. But keep your knees straight while bending the upper part of the body, the legs should not bend.

#### Exercise 2



Lie down on the back. Keep your feet 6 feet apart and arms at sides. Raise your head up just to see your feet keep your legs straight. While raising head and shoulder the legs should not bend. Have deep, slow and long breaths.

#### Exercise No 3

Lie down on your front side, and place your palms under your thighs. Raise head and one leg. Repeat this Exercise 8 to 10 times. Then have long, slow and rhythmic breaths.



#### Exercise 4



Lie down on your front keep your hands under the shoulders, palms flat on the floor. Straighten your arms lifting upper body, keeping the knees on the floor. Bend arms to lower body. Keep body straight from the knees, arms must be fully extended. Chest must touch floor to complete one movement. Repeat it 4 to 6 times.

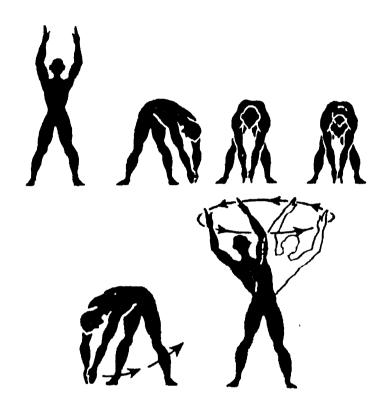
#### Exercise 5



This exercise is called stationary running stand freely and run on the spot on your toes. Lift your feet 8 inches off floor. While standing you are running. Repeat it 10 to 15 times. Stand with right leg and left arm extended forward and backward.

#### CHART 2

#### Exercise 1



Stand erect feet astride, arms upward. Touch floor outside left foot, between press then outside right foot. Circle bend backwards. Reverse the direction. Keep arms above head and make a full circle. Bending backwards and side and side ways.

### Exercise 2

Lie down on the backside. Keep legs straight feet together, arms straight over head. Sit up and touch the toes, keeping the arms and legs straight. Keep arms in



contact with the sides of the head throughout the movement. Repeat it 5 to 8 times.

### Exercise 3



Lie on the front side, hands and arms stretched sideways. Lift head, shoulders, hands, arms, chest and both legs as high as possible. Repeat it 5 to 8 times.

### Exercise 4



Lie down on front, side, palms of hands flat on floor, approximately 1 foot from ears directly to side of head straight arms to lift body chest must touch floor for each. Completed movement. Repeat it from 4 to 6 times.

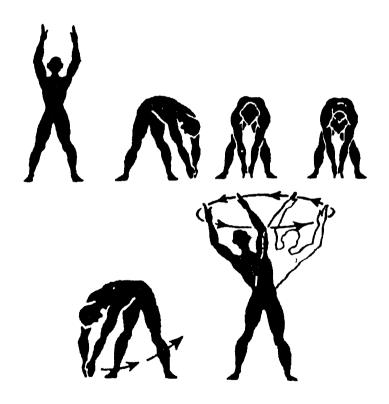
### Exercise 5



Stand erect, lift, knees waist high and jump while standing. Jump to upright position with body straight and feet leaving floor. Reverse the position. Repeat it 5 to 8 times.

#### Chart 3

### Exercise 1



Stand erect, feet astride, arms upward, hands reverse clasped, arms straight. Touch floor outside left foot, between feet, press once then outside, right foot, circle bend backwards as far as possible. Reverse direction keep hands tightly clasped at all times. Repeat it 8 to 10 times.

#### Exercise 2



Lie down on the backside, leg straight, feet together, arms straight over the head. Sit up and at the same time lifting both legs to touch the toes. Keep feet together legs and arms straight. All of the upper back and legs clear floor fingers touch toes each time. Repeat it 4 to 6 times.

### Exercise 3



Lie on the front, arms extended over head. Raise arms, head, chest and both legs as high as possible then press back once. Keep legs and arms straight ----- chest and both thighs completely off floor. Repeat it 4 to 6 times.

#### Exercise 4



Lie down on the front, hands under shoulders, palms flat on floor. Push off floor and slap chest before returning to starting position. Keep body straight during the entire movement, chest slap must be heard. Repeat it 5 to 8 times.

### Exercise 5



Stand erect with feet astride. Lift left knee and waist high and jump up. This exercise is called jack jump while jumping keep, legs straight and touch toes in mid air. Jump again and touch toes each time. Repeat it 5 to 7 times.

# **Asanas for Obesity**

Asans remove diseases,
Asans control emotions.
Asans give mental poise,
Asans awaken kundalini,
Asans reduce obesity,

- Swami Siyananda

Modern young men and women are very keen to learn yogasans. They are finding in yoga a way to greater energy, better health, youthful figure and relaxed living. But they do not know that yogasana is a technique of accuracy and precision. The word "approximate" has no place in yoga. One slight technical error may prove detrimental to the health of the practitioner. Similarly most of the learners do not know that every posture must be followed by counter posture. Moreover the learners do not know which Asans to do first and which to do last. Asans can be classified into static and dynamic. Static Asanas are performed with little or no movements, the body remains in one position for some time. The purpose of these Asans is to provide gentle massage to

the Internal organs of the body, glands, muscles and also to relax the nerves throughout the body. In such Asanas the respiratory rate is slow and the practitioner concentrates his mind on particular part of the body affected thereby, dynamic Asans are those Asans which require energetic movements of the body. The purpose of these Asanas is to loosen the muscles and joints and improve the circulatory and digestive systems. The study and practice of yogasans is incomplete without pranayama. Both Asanas and pranayama are Inter related. It is never too late to start Asanas. Every one should look upon the care of his or her body as a sacred duty.

Asana means a posture in which one can remain steady, calm, and comfortable physically and mentally for a certain time whether seated or otherwise. There are lakhs of Asans given by ancient Rishis and sages. Many people wrongly consider Asanas as gymnastic exercises or body building techniques. If the gymnastic exercises constitute yogasanas then every circus clown and acrobat would call himself a "Yogi". The purpose of yogasasnas is integrated development of the personality i.e., physical mental and spiritual with the help of yogasanas, the nervous system, endocrinal glands, Internal organs as well as the muscles function properly. Asanas have physical and psychosomatic effect. They can be done by all. Young and old men and women. Since body is the means to duty. It should be protected with one's heart by the technique of yoga.

### **Benefits of Asans**

 Regular practice of asanas is highly beneficial for the purification of veins and nerves, and promotion of sound mind and sound body. The asanas should be learnt from a Guru or person who has thorough knowledge of the subject. The correct technique is very essential. The body is a kind of horse to take you to your destination. We remember the moral story how the soldier lost the battle, because the horse of the soldier fell, the horse fell because his shoe fell, the shoe fell because the nail of the shoe fell. This is how for want of the care of the smaller part of our body, the whole body can be affected.

- 2. Yogasana help in mental, physical and spiritual development. There is no age or sex bar in doing asanas. The regular practice of Asanas improves the main system namely digestive system, circulatory system, nervous system and respiratory system. The endocrine system is also controlled and regulated by Asans.
- Asanas make the body supple and flexible and are able to adjust themselves to changes of environment.
   Asanas keep the physical body healthy and free from diseases.
- 4. The regular practice of asanas increases the power of concentration, equilibrium, vigour and vitality.
- 5. The spinal cord is called the tree of life. The branches and leaves are the ramifications of the nervous system which spreads to the near and distant parts of the body. The function of the nervous system depends upon the spinal cord. With the advancement of age, the vertebrae and joints become stiff or rigid particularly when no exercise is done. Yogasans keep the spinal cord supple and flexible.
- Asanas help in the awakening of all dormant powers. The bending and the stretching of the body, the proper functioning of the abdominal muscles the purposation of the blood-----all give vigour and vitality to the mind and body.
- 7. The waste matter accumulated in our body is eliminated by yogasans. As the age of a person

- increases, several organs of the body are weaken or even damaged. Asanas increase the resistance power of the body and keep it free from disease.
- 8. Asanas rejuvenate, tone up the different glands of the body. These healthy glands produce required secretion which help proper growth of the body, making it neither too fat nor too lean.
- 9. Many physical ailments and diseases namely Arthritis, abdominal disorders, diabetes, Asthma, Obesity, Respiratory problems, Migraine, hypertension can be prevented and cured by asanas.
- Asanas help to awaken the psychic faculties. Asanas are considered as forms of meditation and psychic purification.
- 11. People doing mental work can increase their stamina and can have calm and clear mind by doing certain specific asans. People doing manual work can relieve their tension and strains by Asanas.

### Asans and Concentration

In the science of yoga, concentration occupies very important place. During each asana it is important to know where to concentrate. The mode and concentration varies form asan to asan. When a person becomes adept in doing certain asanas minimum number of muscles is used and least amount of energy and concentration are involved. Asanas practised in correct, slow and smooth manner lead automatically to concentration. Since different muscles are involved in different asans, the concentration is maintained between the mind and the movement. Finally, the practitioner should concentrate on the asans strategic points of action. Each asan produces assessed effects upon some parts of the body. For example thyroid region is affected by

Sarvangasan and the solar plexus by Dhanurasan. The positive effect of an Asan is diluted when there is lack of proper concentration at the proper part of the body. In doing certain asanas evil thoughts are diffused concentration can produce positive effects. In order to get desired effects from asans it is essential to know why, how and where to concentrate, some people turn to yogasans by chance and not by choice. This type of mental attitude cannot help in concentration which is required in every human activity.

## Observance of some Basic Rules

In order to get maximum benefits of asans it is necessary to perform them properly at the proper place and time. Asans performed wrongly or Immediately after meals can do more harm than good to the practitioner. The following rules should be strictly adhered to before doing asans:-

- Use a soft folded blanket or carpet for doing asans.
   Do your asans in a well-ventilated calm, clean and peaceful place. A good smooth grassy lawn or any open surrounding is preferred. Whatever be the space available, the space should be airy, free from mosquitoes, flies, ants, bugs, dirty or smoky air.
- 2. Before doing asans, the bladder and Intestines should be empty. If you have problem of constipation, drink two or three glasses of slightly salted water then practice Tadasasan, Katichakar Asan and Bhujangasan. These asans should be followed by Pawanmuktasan.
- 3. Except Vajarasana one should not do any asan after taking meals.
- 4. Asanas should be done after Pranayama.

- 5. Yogasan is non-violent activity. You should never dive strain to your body while doing asans. Beginners may find their bones rigid and muscles stiff, but after regular practice they will become supple, and the body will also be flexible.
- 6. While doing asans, breathing should be done through nostrils keeping the mouth and eyes shut. But in Simhasan, the breathing is done through mouth.
- Asans should be done slowly and steadily with full awareness of the body. If you feel pain or strain anywhere, then immediately stop and relax in shayasan.
- 8. Relaxation during and after Asans is very essential. Shavasan must be done last of all.
- 9. During asans it is better to wear minimum, loose, light and comfortable clothes according to season. Armaments, wrist watch, necklace, rings spectacles, brasiers should be removed before doing asans.
- 10. A yoga practitioner should pay proper attention to food which gives energy, vitality and vigour. It should be sattvic food with green leafy vegetables and fruits.
- 11. Bathing makes the body light and fresh and Increases its elasticity. Asans should be done preferable after taking a bath (cold water or luke warm water) in accordance with the season. However, Asans can be done in the evening also if the stomach is empty.
- 12. All Asans should bot be done at the start. Asans should be done according to one's capacity. After doing asans correctly and regularly, you will find the difference. If your body becomes light and mind cheerful, then the Asans are having positive effect on your body and mind.

### A VERY IMPORTANT WORD OF CAUTION

1. Asans should not be done according to one's whim or liking. Each asan has a specific aim and purpose.

Persons suffering from hypertension (High or low Blood Pressure) or any Heart ailment or disease and migraine should not do the following asans:-

These asans can prove very dangerous. Sarvangasan, Halasan, Sumeruasan, Pranamasan, Makarasan, Dhanurasan, Padahastasan, Matsyasan, Shashankasan, Merudandasan, Supt vajasrasan, Chakarasan, Tolangulasan, Sirshasan, Kapaliasan, Garbhasan, Lolasan, Bhumi Pad Mastakasan, Koormasan, Pschimotasan, Vrischikasan, Kapotasan, Omkarasan, Grivasan, Kandhavasan, Mayurasan, Mayuriasan.

2. People who have fracture bones and those who are suffering from fever and chronic diseases should not do dynamic asans. Moreover, No Asan should be done when there is inflammation or fermentation in the Intestines. Pregnant women should also avoid doing dynamic asans. They should do Advasan, and Shavasan for complete relaxation of mind and body. Asans should not be done during the period of menstruation or menopanse. Persons suffering from Obesity or overweight are required to do following asans regularly and correctly. These asans involve every part of the body---the spine, the limbs, the chest, the abdomen and the Intestines these Asans will be highly beneficial for reducing weight and reducing obesity.

### 1. Simhasan (The Lion Pose)

#### **Comments**

This pose appears to be odd and unpleasant but is very much rewarding and rejuvenating for throat, face and neck. In Sanskrit Simha means a lion. This pose is dedicated to Narsimha, the man-lion incarnate of vishnu refers to the famous legend in Indian scriptures. The modern yogis think that this is a fine asans for Isometric contraction exercise. This asana has two variations. The first given below follows the second which is more strenuous but having greater effects. Since in this asana it becomes difficult to breathe in and out continuously so practitioners should practise this asans for a couple of seconds only. This asana is held sacred by the best of yogis.

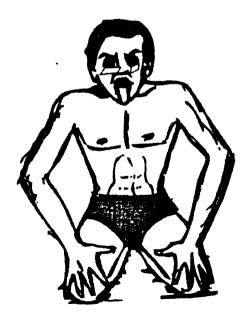


Fig. 8.1: Simhasana

### Technique

Sit on the folded blanket with legs stretched straight in front. Raise the seat, bend the right knee and place the right foot under the left buttock. Similarly bend the left knee and place it under the right buttock. The left ankle should be kept under the right one. Sit on the heels with toes towards backwards and put the weight of the body on the thighs and knees Stretch the trunk forward and keep the back erect, place the right and left palms on the right and left knees. Stretch the arms straight and keep them rigid. Then spread the fingers and press them against the knees. Open the mouth and eyes wide and protroude the tongue out and down as far as you can. Gaze at the centre of the eye brow or at the tip of the nose. Remain in this pose for a couple of seconds. Breathe through the mouth.

Benefits: This asana will direct the flow of blood to the throat and larynx and will tone up the muscles of the throat and face. It is also extremely beneficial for those who stammer. It can also increase the glow of the face and eyes and remove constipation

### 2. Vajraasan (The Thunder Bolt Pose)

#### **Comments**

Vajra implies diamond. As the name suggests, this asana makes the body as graceful and strong as diamond. It is the prayer pose of the Muslims and the meditative pose of the Buddhists.

## Technique

Sit on the folded blanket with the feet stretched backward and big toes crossed. The knees should be kept together but heels apart. Lower the buttocks inside the feet. The heels should touch the sides of the hips. Place the hands on the knees, palms downward.

#### **Benefits**



Fig. 8.2: Vajarasan

This asana brings tranquility to the mind. It also cures diseases such as nervousness indigestion and urinary diseases. It can also remove headache, acidity and weakness in the sexual organs and restore hope and self-confidence in man. This asana is very beneficial for a person suffering from heart ailments.

### 3. Buddha Padamasan (Bound Lotus Pose)

#### Comments

Like Padamaasan, it is also recognised as the classic yoga pose. It is one of the basic but highly beneficial asanas and is in continuation with Padmasana.

### Technique

On a folded blanket, adopt the pose of Padamasana, cross the arms behind the back and grip the toe of the right foot with right hand and the toe of the left foot with left hand. The chest should move forward. Breathe slowly

and freely. Remain in this pose for a couple of minutes. Come to the original position and relax.



Fig. 8.3: Baddha Padmasana

#### **Benefits**

This asana develops the power of concentration gives the body inner harmony, stimulates nervous system, strengthen the muscles of the chest, spine and legs, expands the chest and curse diabetes, asthma, Bronchitis and Arthritis and obesity.

### 4. Uttita Padamasan (The Pendulam Pose)

#### **Comments**

This asan is one of the favorite asans with some modern yogis for maintaining balance and equilibrium of the body. Persons suffering from High Blood pressure and pulmonary diseases should not do this asan.

### Technique

On a folded blanket, sit in Padamasan and place palms of both the hands by the sides. Now raise the body up on the hands by applying pressure on the shoulders. Keep the eyes open and look straight. When the body is sufficiently raised inhale breath slowly and retain the body on the floor. Then slowly low down the body on the floor and exhale breath.



Fig. 8.4: Utthita Padmasana

#### **Benefits**

This asan is very beneficial for the muscles of the body in general and the muscles of arms, shoulders, chest and lungs. It prevents cough and belching. It removes chronic constipation reduced obesity and decreases over weight. It also cures piles, and gastric trouble.

# 5. Halasan (The Plough Pose)

#### Comments

In Sanskrit "Hala" means "Plough". This asana must be done after Sarvangasana. This pose is named so because it bears close resemblance to a plough (tool). It is one of the few asanas named after a tool. It is part and continuation of Sarvangasan. Different theories for the promotion of health have been evolved from this Asana by the yoga therapists.



Fig. 8.5: Halasana

# Technique

Spread a folded blanket on the floor and lie flat on the back with arms straight near the body, palms facing downward. Keeping the legs straight raise them slowly above the head. Only stomach abdominal muscles should be used to raise the legs. Bend the trunk upward hips first and slowly lower the legs over the head till the toes touch the floor. Keep the legs straight, now interlock the fingers and stretch the arms. The legs and hands are stretched opposite direction. Breathe slowly without any strain. Come to the original position and relax.

### Benefits

Halasana improves the functioning of the abdominal organs--kidney, liver and pancreas. It makes the spine supple and strong, removes extremities of thighs. It cures rheumatism lumbago, nerve pains cramps in the hands, chronic constipation, diabetes, piles, and in somnia. It stimulates and tones the thyroid and parathyroid glands. This asana is wholesome for all the organs of the body.

### 6. Dhanurasan (The Bow Pose)

#### **Comments**

In Sanskrit Dhanur means "a bow". This is a vigorous elaboration of Bhujangasanas. Abrupt jerky movements should be avoided in this asana. The beginners may find it difficult to make hold of the ankles with hands. They can overcome this difficulty by constant practice and determination. This asana is beneficial for women. The asana should not be practised by persons suffering from hernia, peptic ulcer, intestinal tuberculosis or any injury in the spine.

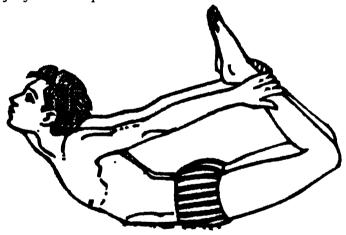


Fig. 8.6: Dhanurasana

# Technique

Lie flat on the stomach and chest fix the legs bringing the feet back towards the head. Raise the legs, head and upper part of the body. While arching the back, take hold of your right ankle with your right hand and left ankle with left hand. Breathe slowly and normally. Remain in this pose for a couple of seconds. Return to the original position and relax.

#### **Benefits**

This asana powerfully massages the abdominal organs and muscles. It removes constipation and cures dyspesia, rheumatism, gastrointestinal disorders, asthma and sluggishness of the liver. It reduces fat, energises digestion, sharpens appetite and is highly beneficial for women suffering from irregular or faulty menstruation.

### 7. Sarvangasan (Shoulder Stand Pose)



Fig. 8.7: Sarvangasana

## Comments

In Sanskrit "Sarva" means "all" or "entire" and "anga" means limb or body. Sarvanga means the entire body or all the limbs. This is one of the most powerful and popular asanas. By practising this asana all parts of the body are benefitted. In this asana circulation is directed towards the thyroid and parathyroid glands which play vital role in the promotion of health. The malfunctioning of thyroid gland can harm all other glands. Within a few days of practising sarvangasana, one will be conscious of its invigorating influence on the whole body. To drive

maximum benefit from this asana Halasana should be practised after this asana.

### Technique

Spread a blanket on the floor and lie flat on your back. Then slowly raise the legs up lifting the trunk and hips vertically. The hips be supported by both hands. Let the elbows rest on the floor. The chin should be firmly pressed against the chest. In this pose the hinder part of the neck should touch the floor and trunk and legs should remain straight. Remain in this pose for a few minutes and breathe slowly and deeply and concentrate on the thyroid gland which is at the root of the neck. Return to the original position very slowly and relax.

#### **Benefits**

This asana has a number of benefits. It rejunevates all the organs of the body strengthens the spine, stimulates endocrinal glands, tones up the nervous system and improves circulation and reduces fat.

## 8. Suptvajraasana (Spine Pelvis Pose)



Fig. 8.8: Suptavajarasana

#### Comments

This is one of the most common and popular postures in yoga. It is well known for many therapeutic benefits and is held in high esteem by many modern yogis.

# Technique

Sit on the folded blanket with buttocks on the floor between the heels in Vajrasana posture, exhaling, lean back slowly and lower the elbows to the floor, support the trunk for a couple of seconds on the elbows and forearms. Fold and lock the arms above the head, lie for a couple of seconds in this posture and breathe slowly and deeply. Then sit up again supporting on the elbow and feel relaxed

### **Benefits**

This asana removes stiffness from the knee, joints, ankles and thighs, increases thoracic mobility, improves circulation of blood and cures many parasitic skin diseases and reduces obesity.

### 9. Jestikaasan (The Best Pose)

#### Comments

It is more or less the same as Advasana with slight variation. It is also very simple, easy and comfortable asana and can be performed by any one irrespective of age, sex or place.



Fig. 8.9: Jestikaasana

### Technique

Spread a blanket on the floor and adopt the pose of advasana. Interlock the fingers and place the palms at

the back of the head. Breathe slowly, deeply and rhythmically. Relax the whole body

#### **Benefits**

This asana tones the nervous system, relieves neck pain shoulder pain and develops power of concentration sharpens memory and removes headache and migraine.

### 10. Shirshasan (The Headstand Pose)



Fig. 8.10: Shirshaasan

#### **Comments**

In Sanskrit "Sirsha" means head. Shirshasan is the most important popular, spectacular and extremely beneficial asana. It is called the king of asanas while some think of it as queen of the asanas. To a layman yoga means sirshasana and sirshasana means Yoga. In the west this asana is popularly known as "topsy-turvy"

pose. To those who are ignorant, it seems madness to perform headstand and break their neck. Persons suffering from high blood pressure. A weak heart, thromposis, vertigo, chronic constipation, blood impurities, should not attempt this asana. Yogis recommend the sirshasana to eliminate the disadvantage which appears from standing upright. This asana too has a number of variations and innumerable benefits.

### Technique

On a folded blanket, place a folded towel, adopt Vajrasan pose. This asana is performed with the help of the hands and arms. The whole weight of the head, trunk and body is placed on the inter-twined hands and elbows. Bend forward and place the forearms on the floor with fingers inter-twined and elbows front of the knees. Place the crown of the head between inter-twined hands. Lift the knees off the floor and raise the buttocks until the legs are straight. Slowly move the legs toward the trunk and allow the knees to bend so that the back is upright and the thighs press against the abdomen and lower chest. Slowly transfer the body weight from the toes to the head and the arms and raise the outer foot and balance on the head and arms. When the balance has been maintained, raise and strengthen the hips so the thighs move up. Slowly raise the legs high up in the air till the whole body become erect. Stand in this pose for ten seconds and gradually increase the period of time. Always breathe through the nose and never through the mouth. Lower the legs very slowly without any jerk to the mouth. Lower the legs very slowly without any jerk to the floor come to the original position. After completing the asana stand erect for a minute. This will harmonise the blood circulation.

### **Benefits**

So numerous and varied are the benefit of sirshasan that a book can be written points benefits alone. However, some of the glaring benefits are discussed here. In this Asana the whole weight of the body rests on the head the action extends up to the base of the spine and sacrum which supports the whole weight of the body. The disc is subject to maximum of pressure and strain. In sirshasana, the limber vertebrate are placed automatically in their normal position. This asana removes backache caused by prolonged hours of driving, riding, standing and sitting.

Sirshasana influences circulation of blood tremendously standing erect and upright increases stasis in the veins which are near the heart. Owing to the gravitational pull arterial blood supply is retarded. But Sirshasana reverse the process. The venous blood is evacuated from the legs and blood stares are expelled from the abdominal region. The accumulated venous blood in the legs is recirculated and returned to the heart speedily and the lungs are purged of toxins. Sirshasana when accompanied by deep breathing purifies the organism without any pressure or strain the heart. The veins of the legs get more rest in recombend posture. Sirshasana prevents vericose veins and hemorrhoids.

# 11. Mayurasan (The peacock Pose)

#### Comments

This asana is a variation of peacock pose and is performed from Padmasana. This asana also belongs to the advanced group of Balancing asans. The persons suffering from high blood pressure, heart ailments and mental debility should not attempt this asana.

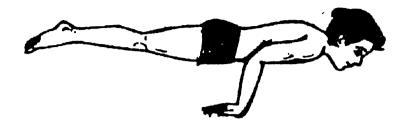


Fig. 8.11: Mayurasana

### Technique

On a folded blanket, adopt the pose of Padamasana. Bend forward place the palms inward on the floor. Rest the forehead and the knees on the floor. Now move a bit forward and throw the weight on the elbows and the palms. Rest the diaphragm on the elbows and lift the head and the legs in Padmasana pose. Remain in the pose for a few seconds. Come to the original position and relax.

### Benefits

This asana gives most of the benefits of Mayurasana. Besides, the asana strengthen the muscles of legs and anus. This asan cures many diseases of testicles.

### 12. Vrikshaasan (The Tree Pose)

#### Comments

This asana belongs to the inverted balancing group of asanas. It is one of the most fascinating and effective asanas. When performed correctly it looks like a tree.

# Technique

Stand up right. Fix the right leg on the ankle. Fix the right foot on the left thigh. Bring the palms of the hands together a little above the head with the arms half bent.

It will assist good balance to fix the gaze on a point level with the eyes on the wall. Breathe freely and deeply. Stay in this pose at least for ten seconds.



Fig. 8.12: Vrikshaasan

### **Benefits**

By this asan, the spine is stretched and limbered and muscle of abdominal arms, shoulders and chest are strengthened. This asanas also tones the nervous system, removes tension and radiates the face.

# 13. Paschimot Asan (Stretching the back and Hip pose

#### Comments

As the name suggests this asana stretches the entire rare portion of the body, jerky movement is to be avoided in this asana. This asana checks the "Ageing process" and is one of the powerful asana for spiritual awakening.

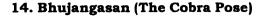


Fig. 8.13: Pashchimottanasana

Lie flat on the blanket and stretch the arms over the head and breathe in slowly and normally. Raise the arms, head and trunk, exhale and bend them over the legs without raising the knees, catch hold of the toes with fingers, contracting the abdomen and gently pressing the head against the knees. Pull the toe with the arms and lower the elbows. The bending should be done very slowly. Remain in this pose for a couple of seconds and increase the time gradually. Return to the original position and relax.

#### Benefits

This asana cure chronic constipation, piles, obesity, sluggishness of the liver, dyspepsia diabetes, sciaticam belching and gastritis. It also tones up the muscles of the spine and abdomen, stimulates thyroid and parathyroid glands. It also makes the body slim and tall. Activates the kidney, liver, pancreas and adrenal glands. It also tones up the pelvic organs and is especially useful for curing female sexual disorders and helps normalise the menstrual cycle. Like Shirshasana and Sarvangasana, Paschimottanasanas is the destroyer of all diseases and bestower of healthy life.



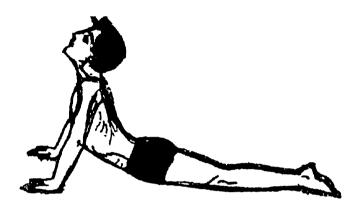


Fig. 8.14: Bhujangasana

#### Comments

Bhujanga in Sanskrit means "a cobra". When the full and correct pose of this asana is adopted, it resembles a hooded cobra. This asan is more beneficial to women for strengthening the ovaries and uterus. This asan belongs to the category of "sacrum asan". This asan has four variations the sphinx pose: the sarpasana pose, twisting cobra pose, the full cobra pose. People suffering from peptic ulcers, hernia and intestinal tuberculosis should not do this asana.

## Technique

Lie flat on the stomach with legs straight and the feet extended. Place the hands, palms under the shoulders slowly raise the body the navel until the arms are straight but the stomach and the legs must touch the floor. Bend the head back gazing diagonally upwards. Remain in this pose for a couple of seconds. Breakle slowly and normally throughout.

#### **Benefits**

Bhujangasan is one of the highly efficacious asans for the spine and abdomen, it removes unwanted flesh from the hips up the nervous system, liver and kidneys. It cures jaundice, diabetes, piles, insomnia, females sexual ailments such as dymenorrhea, leucorrhea and amenorrhea. It helps normalise the menstrual cycle. Corrects menopause and restores equanimity. It is specially useful to women to tone the ovary and uterus. This asan also strengthens the adrenal glands.

## 15. Matsyaasan (The Fish Pose)



Fig. 8.15: Matsyasana

#### Comments

The word Matsy implies "Fish" in Sanskrit. The origin to the name given to this asana appears to be strange because it does not bear any resemblance to fish. The Sanskrit texts give justification that this asan can allow one to float in water like a fish. Matsyasan enables the centre of gravity more towards the middle of the body. Allowing sufficient ventilation to the lungs and increases the capacity of the man to float. It is a counter posture to sarvangasan and Halasana.

Sit in the Padamasana posture. Lie back, keeping the locked legs down on the floor. Support the body with the hands and elbows. Lift the head and the shoulders and arch the back pressing the crown of the head on the floor forming a bridge in which the shoulders and the back remain above the floor Grasp the toes with both hands. Breathe deeply, expanding the rib cage fully, remain in this pose for a couple of minutes. Return to the original pose and relax.

#### Benefits

This asana strengthens the muscles and nerves of the neck, the back and tones up the nervous system and lungs. It improves the mobility of the throax and supplies sufficient blood to the pituitary and pineal glands, rejuvenates the thyroid and parathyroid glands. This asana cures asthma, consumption, chronic bronchitis, epilepsy, menopause, diabetes, abdominal disorders, piles and obesity. In some renowned yoga therapy institutes, patients suffering from leprosy have been cured.

# 16. Yad Tul Asan (Semi Bridge Pose)

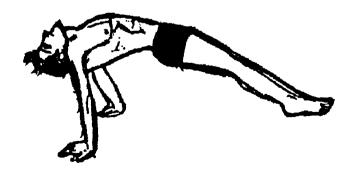


Fig. 8.16: Yadtulasan

Lie down on a blanket with face upwards raise the legs and hands and maintain balance of the body on your legs and hands. While raising the body upwards inhale air and retain breathe for a couple of seconds. Exhale breath slowly and rhythmically while keeping the body down. The power of this asan lies in the retention of breath. Relax for a couple of minutes.

#### **Benefits**

This asan makes the spinal cord supple and elastic. It invigorates the nervous system, improves digestion massages the skin pores and cells, pancreas, glands and pelvic organs. It cures skin eruptions psoriasis pityriasis, rosea, eczema and many parasitic skin disease and reduces fat.

#### 17. Marjaria asan (The Cat Stretch Pose)

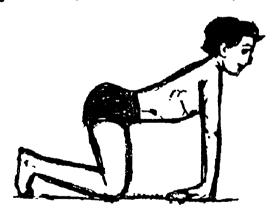


Fig. 8.17: Marjariaasan

#### Comments

This asana is one of the simplest and can be performed by any one easily. This asana is also performed from vajrasana and can be extremely beneficial if the stomach is contracted during exhalation. Marjaria in Sanskrit means a cat. This asan belongs to the energy block group of asanas.

## Technique

On a folded blanket adopt the pose of Vajrasana. Raise the buttocks and stand on the knees and at the same time place both hands flat on the floor in front of the body under the shoulders inhale and raise the head. Then exhale and lower the head and arch the spine. Again bend the spine and raise the head. The arms are to be kept straight and vertical.

#### **Benefits**

This asana is extremely beneficial for women in general and pregnant women in particular. The asan cures menstrual irregularities, leucorrhea and can give relief from croups. The asana also tones up the nervous system, adrenal glands and normalises blood circulation. Strengthens the muscles of the arms, legs and makes the waist supple. It can also cure asthma and kidney ailments.

# 18. Ushtra Asan (The Camel Pose)

#### Comments

Ushtra means a camel. This asana is specially advised for persons suffering from spinalaches and spinal disorders. The beginners often aches, pain and fatigue while practising this asan. But they should not feel discouraged. A little time and constant practice are needed to adopt this asana well.

# Technique

Sit in Vajarasana pose with your feet and knees slightly apart. Stand on your knees and stretch the arms to the sides. Lean backward and put the hands on the heels. Stretch the neck backward and let the weight of the body rest on arms. Bend back as far as possible and push strongly. Remain in this pose for a couple of seconds and breathe slowly without any strain.



Fig. 8.18: Ushtraasan

#### **Benefits**

This asana is extremely beneficial for spine, shoulders, lungs and the neck. It stretches and strengthens the spinal muscles and feeds the spinal nerves with blood. It also removes backache shoulder pain, kidney ailments, cures asthma cures abdominal disorders, helps normalise the menstrual cycle and eliminates constipation. It also strengthens muscles of the abdominal region and adrenal glands. It reduces over-weight.

## 19. Yog Mudra (The Symbol of Yoga)

#### Comments

In the classical dancing Mudra means a symbolic gesture of the hands which evoke a particular mood or gesture of emotions. Some yogis are of the opinion that Mudras are more effective than Asanas and Pranayama because they arouse the dormant serpent power (Kundalini) in man. There are about twenty-five Mudras discussed in the "Gherand Samhita". Which can be practised only under the supervision of a qualified teacher. A Mudra is a particular attitude sysbolising psyche. Some of the popular Mudras are Gyana Mudra (Psychic gesture of consciousness), Shambhavi mudra (Eye brow entre gazing), Nasikagra drishti (Nosetip gazing), Bhoochari mudra (Nothing gazing), Akashi mudra (The barrelled abdomen Technique), Bhujanginimudra (The horse mudra) and Khechari mudra (The tongue look), all these mudras are done in sitting posture.



Fig. 8.19 (A): Yoga Mudra



Fig. 8.19 (B): Yoga Mudra

Sit on a folded blanket in Padmasana pose. Relax the whole body and close the eyes. Place the hand behind the back catching hold of the left wrist in the right hand and keeping the spinal column erect, inhale and exhale slowly leaning forward touching the floor with forehead. Stay in this posture for as long as you can without any stress or strain. Focus your attention on the abdominal region. Then breathe in slowly and rhythmically. Sit upright and relax.

#### Benefits

This asana cures diabetes, removes constipation strengthens the abdominal muscles. Keeps the organs of the body healthy and tones up the entire nervous system.

## 20. Trikun Asan (The Triangular Pose)

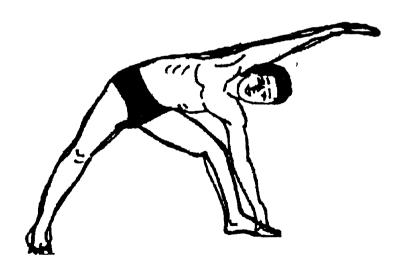


Fig. 8.20: Tikunasan

#### **Comments**

Trikonasana and all its variations belongs to the category of standing and bending asanas. This asan is called "Trikona" because the asana when performed correctly, gives the idea of three angles.

# Technique

On a folded blanket stand erect with legs apart and inhale. Raise the arms horizontally in a straight line with the shoulders. Start bending slowly to your right until your right hand touches your right foot. The arms should form a vertical line with the face turned upwards. After a couple of seconds inhale and perform the same movement of the left side and exhale slowly while lowering the arms.

#### **Benefits**

This asana stretches and strengthens the muscles of calf, waist, thighs, hips, legs, spinal column and adrenal glands. It also improves constipation stimulates heart and lungs. It also improves digestion, invigorates appetite, it also improves digestion and blood circulation and removes neck and backache and dyspepsia. Performed regularly and correctly this asana and reduce excessive fat in hips and abdominal region. It can also correct the Gall Bladder disorders and increase height.

# 21. Padahghushtasan (Forward Bend Pose)

#### **Comments**

This asana is praised and practised by many Hatha Yogis. This asana is for beginners and intermediate students as well. The asana can be performed by anyone with slight practice, suppleness and strength.



Fig. 8.21: Padangushtasan

Stand upright, feet together breathe in deeply. Raise the hands high over head, palms forward. The upper arms covering the ears, exhale and keep the legs locked. Bend forward from the waist and push the arms backwards above the ankle. Then slowly return to the upright position. Regular practice of this asana will bring suppleness.

#### **Benefits**

This asana tones the nervous system, massages the abdominal organs. This asana is excellent for loosening the shoulders and upper back, limbering the spine and toning arms, hips and legs. It also feeds the fascial tissues and scalp with blood and improves circulation.

# 22. Salabhasana (The Lotus Pose)

#### Comments

In Sanskrit slabha means locust. When the full and correct pose of this asana is displayed. It resembles a locust with its tail raised. In Bhujangasana the body below the navel touches the floor but in Salabhasana the process is reversed i.e., the upper body touches the floor.

#### Benefits

This asana strengthens the muscles of lower back, buttocks, head and lungs. It removes fatty tissues from the waistline, stimulates the abdominal viscera, tones up the liver, intestines, Pancreas, Adrenal glands and kidneys. It is highly beneficial for persons suffering from lumbago chronic constipation, insomnia, dyspepsia, sciatica and asthma. It also helps normalise the menstrual cycle and extremities of thighs.

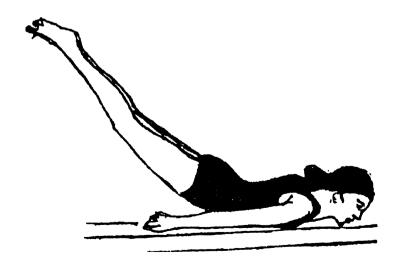


Fig. 8.22 : Salabhasana

On a folded blanket on the floor, lie prone on the stomach and chest. The forehead and the chin must touch the floor and keep arms alongside the body and legs extended together. Take a deep breath. Clench the fists tightly and raise the legs together as high as possible without bending them. Exhale breath and bring the legs slowly to the floor. Remain in this pose for a couple of seconds. Return to the original position relax.

## 23. Naukaasan (The Boat Pose)

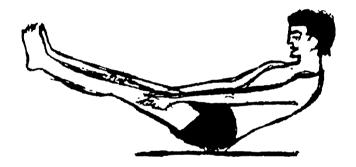


Fig. 8.23: Naukasana

#### Comments

This asana is one of the simplest asanas belonging to the energy blocking group of asanas. Energy in the prana (life force) is in every part of the body. It must have free flow. Sometimes due to certain impurities or chemical reactions, the free flow is blocked resulting in stiffness. Rheumatism and muscular tension. This asana when performed correctly resembles the shape of a boat. Hence named Naukasana. It has number of variations.

Lie flat on the floor facing the sky with hands clasped at the back. Raise your feet, head on the chest up as to form a curve on the floor. With your body rest on abdomen in this pose the body looks like a boat. Breathe slowly and rhythmically. Remain in this pose for couple of minutes, and rock the body from one side to another like a boat.

#### **Benefits**

This asana eliminates the gas from abdomen cures belching and hiccough. It also brings the dislocated navel plexus to its original position. It also cures disorders of liver and the gall bladder, strengthens the intestines and colon. The asana improves digestion and sharpens appetite.

## 24. Gomukhasan (Face of Cow Pose)

#### **Comments**

"Gou" in Sanskrit means "Cow" and mukha "face". This asana is used for medidation, prayers and breath control. This asan when done correctly resembles the face of a cow.

## Technique

Sit on a folded blanket on the heels, knees together and head, and spine straight. Bend the right arms raise the elbow and lower the hand as far down the middle of the back without disturbing the upright posture. Bend the left arms and bring the left hand up the centre of the back until the finger of both hands interlock breathe deeply. Remain in the pose for a couple of minutes. Unlock the hands and repeat the process in reverse manner. Return to the original position and relax.

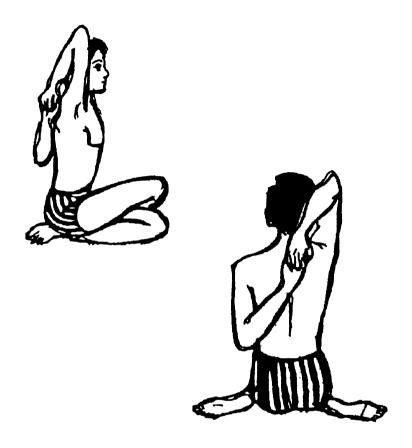


Fig. 8.24: Gomukhasan (Side)

#### Benefit

This asana cures diabetes, backaches, sexual ailments, insomnia, kidney troubles, sciatica and rheumatism. It also strengthens and tones up the muscles of the shoulders upper back triceps. This asana also checks the formation of calcium deposits at the

shoulder joints.

# 25. Padamasana (The lotus Pose)



Fig. 8.25: Padmasana

#### Comments

"Padamasana" is a unique pose for meditation, worship and prayer. It is held in high esteem by the yogis. It was the pose adopted by great Maharishi Lord Buddha and other great saints and sages like Sandilya, Gheranda, Matsyendra, Bhirava and Swastmaram. It is called Padmasana after the famous flower (Lotus). This asana needs sufficient suppleness. Women and children can make a better attempt in doing this asana than men. Those suffering from stiffness of legs and knees and ankles will feel uncomfortable in this posture but regular practice will make them perfect.

# Technique

Sit on the folded blanket with your legs outstretched. Bend each leg and place each foot on the opposite thigh, soles upwards. Pull the foot as high as you can. Keep the palms of the right and left hand on the right and left knees, touching the thumb with tips of index fingers and gaze at the tip of the nose. Keep the head, neck and spinal column straight and erect and breathe slowly.

#### **Benefits**

It increases the psycho-physical energies. It tones up the abdominal muscles and helps proper functioning of the circulatory system. This asana also develops the mental and physical stability and cures dyspepsia and rheumatism, relieves stiffness of joints and muscles. Helps in arousing kundalini and is a comfortable asana for the ease and comfort of the mind.

#### 26. Parvat Asana (The Mountain Pose)



Fig. 8.26: Parvatasana

# Technique

Sit on a folded blanket, adopt the pose of siddhasana and gaze on a white spot on the floor. Stretch your hands upwards, and keep the neck, spine in straight line. While raising your hands upward breathe in and retain breath for a couple of seconds and while bringing hands down breathe out. Do this asan at least ten times.

#### Benefit

This asan cures nervous debility, arthritis and improves digestion, blood circulation and chronic constipation. It increases the powers of concentration and removes tension and obesity.

# 27. Chakraasan (The Wheel Pose)



Fig. 8.27: Chakarasan

#### **Comments**

Chakra in Sanskrit means a "Wheel" or a circle. This asana when displayed well looks like a circle or wheel. This asana has a number of variations. Persons suffering from high blood pressure. Heart ailments deafness, and toxic intestines should not attempt this asana.

Lie down on your back, bend the knees and touch the buttock with heels. The feet should be about one foot apart. Place the palms on the floor with the elbows pointing upwards. The palms and fingers should rest squarely on the floor. Supporting the weight of your body on your hands and raise your hips and abdoment as you can. Let the entire body appear like a wheel with feet and hands touching the floor.

#### **Benefits**

This asana is highly beneficial the abdominal muscles, spinal muscles, influences all hormonal secretions, releives different ailments of the female reproductive system, tones up uterus, improves eye sight, brings richness and clarity of voice and cures asthma, chronic constipation. Insomnia, diabetes, nausea and normalise the menstrual cycle. It can also remove burning sensation and backache and reduce over-weight.

# 28. Shavasan (The Corpse Pose)

#### **Comments**

Last but not the least comes very important, popular and highly powerful asana known as shavasana. In the classic texts "Hatha Yoga Pradibka". This pose is called Shavasan and it is named as Mritasana. Both shava and Mrita means corpse or dead body. As the name suggests, the practitioner lies on his back on the floor or on the soft carpet. Our body is like a factory with many machines inside. The waste toxins are to be repaired and swept away from our body organism.

## Technique

On a soft carpet or blanket of folded rug lie full length on back with arms away from the body with palms facing upward and feet slightly apart. Close the eyes and mouth and withdraw the consciousness by stages beginning with the feet, the ankles, the knees, the abdomen, the chest, the neck, and the face. Rhythmic and deep breathing are absolutely necessary for concentration which gives complete relaxation. Inhalation, exhalation and retention of breath are involved in this Asan.

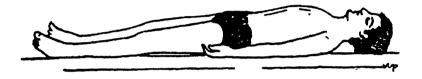


Fig. 8.28: Shavasana

#### **Benefits**

Shavasana is an excellent asana for complete physical, mental and spiritual relaxation and refreshment. Regular breathing is highly beneficial for the body and mind. This asana when performed correctly gives rest, peace, transquility and relaxation to body and mind.

# PART-IX HEADACHE

# **Headache and Its Causes**

Headache is a diffuse pain in various parts of the head, not confined to the area of distribution of any nerve. Headache is one of the common complaints of modern man. Since Headache is an almost universal complaints, it is a topic that almost everyone can discuss from painful first hand Experience Headache is not a disease by itself, but rather a symptom of a disease or a functional disturbance.

Headache is as old as human race. As early as 300 B.C. the term "Sick headed" was used while stone tablets at Epidaurus dating from 400 B.C. describe a case of insomnia due to headaches. Both socrates and plato in the fourth century BC were aware of the relationship between being tense or upset and headache. Men and women have always been plagued by headaches. In fact after hunger and fatigue, they have been for centuries the most common and the most distressing physical complaint, interfering with the conquests and careers of both Julius Ceaser and Alexander the Great.

Headache like the mysterious common cold is not serious enough as a medical or human problem to attract the kind of massive attention. Headache unlike the common cold has widely been presumed to be a psychological phenomenon.

Tension, Headaches and Headaches of emotional origin are Extremely common, probably constituting the

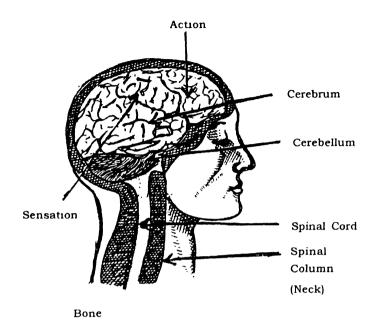


Fig. 1 1: The Human Brain

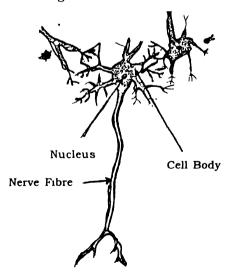


Fig. 1.2: Nerve Cell

most usual cause of headache observed by physicians. They occur in so-called normal persons as well as those afflicted by emotional problems, and they differ in the same person on different occasions. In many cases, the emotional difficulty is unknown. A considerable time may ensure between a siege of worries. Headache will sometimes persist long after the emotional state subsides. Nor is it necessary for a person to undergo a period of emotional upheaval to bring on headaches. The chronic Wear and Tear of everyday living is enough to tax person and produce his headache. Headaches that occur at regular intervals in everyday life are likely to be mental in origin. Over-conscientions professional men and women, business Executives and white-collar workers are especially vulnerable to such headaches at the end of a trying, demanding day. Since the causes are often deep seated and difficult to recognize. emotional or mental headaches account for many headaches dismissed casually as being "nervous" in origin. The suffering that follows can sometimes be as real and intense as headache that are produced by organic disease.

In contrast to headaches of emotional origin a headache can warn that something is fundamentally wrong with the brain. No chronic headache should be dismissed without investigating the possibility of its having a serious cause.

Often patients ask "Why do we get headache, our all tests are normal and nothing is wrong"? When most causes of headache are ruled out then the headaches may be attributed to sinus, allergy and jaw problems. Unfortunately there are no tests which can diagnose the Exact cause of headache. Regarding migraine 90% of people with migraine inherit it. Some studies show that if one parent has migraine. Each child has 40% chances of developing it. Main theories about the cause of migraine have been propounded.

- 1. The Brain-central theory.
- 2. The Blood vessels theory.
- 3. The Inflammation theory.
- 4. The Unifying theory.

## The Brain-central Theory

According to the Brain central theory, the magnesium levels in the brain are low in migraine patients. The low magnesium levels may trigger abnormal brain Electrical activity that starts in the back of the brain during the aura phase and spreads forward.

#### The Blood Vessels

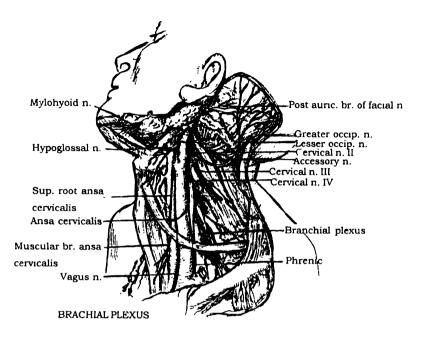
In the seventeenth century it was proposed that migraine was caused by changes in blood vessels activity. It is possible that platelets-serotonin-containing blood cells involved in clotting—are abnormal in migraine persons and this causes pointed headache or migraine.

## The Inflammation Theory

According to this theory the trigeninouvascular system of the brain is the key to migraine pain. This system involves one of the twelve cranial nerves and its interference with the arteries in the covering of brain. Chemicals released from the ends of the trigeminal nerve cause inflammation to occur around blood vessels and cause migraine.

## The Unifying Theory

According to this theory migraine represents a succession of events that begins in one area of the brain as an electrical change and causes alterations in another area of the brain and the trigmeno-vascular



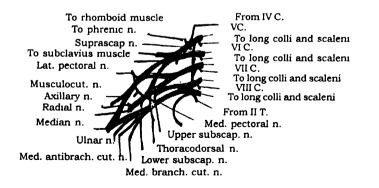


Fig. 1.3: Nerves of Neck and Axilla

system. These changes trigger biochemical events in the brain that result in clumping of platelets and produce pain which is called migraine.

Many migraine patients are sensitive to internal and External Environmental change. The menstrual cycle can be a vital factor in the majority of women. Second trigger with some patients of migraine, the dark colored alcohol (Scotch, Bourbon, Dark Rum and Red wine) are more likely to trigger migraine attacks than the red coloured ones. Many foods particularly those that contain tyramine can trigger migraine. In some cases, monosodium glutamate an ingredient added to a wide variety of prepared foods can cause migraine.

Urbanisation, along with Industrialisation and commercialisation, in the face of fast growing urban population, has alienated the man from the Nature. This disharmony with the nature has introduced artificiality in the life and living patterns of modern man. A stressful life style resulting from day to day problems may cause headache. Muscle contrition headache is probably the most common occurring of all headaches. It affects both men and women of all ages. It can happen at any time or to anyone. What one usually feels is a pressure in the head on both sides. One's head feels tight and the pain is dull rather than specific. One may notice it if one stands up or raises his or her eyes to look upwards and he realises that he has been feeling uncomfortable. This headache generally appears when one is stressed or harassed. Before an examination or a job Interview, after a day spent looking after the children, having to speak in public going out on a date, asking for a raise . . . these are all things creating conditions for headache to arise what seems to happen is that one tense muscle in one's scalp, face, neck as a response to the stress one is Experiencing. One does not simply frown at the thought

of one's boss's face but one becomes tight and unrelaxed and when one does normal things like talking, walking and sitting one's muscle groups don't have time to recover through relaxation. There is a limit to what one's muscles can take and gradually the stress accumulates and goes upwards into the head. Hence the term muscle contraction headache. In contrast, blood vessels or vascular headaches, like migraine, tend to be fairly clear-cut and this is because their action is more through the blood vessels than through the body's muscle system. It is a fact that anything injected into the blood circulates much faster it is injected into the muscles. There is the same difference between tension headache and other forms of headache---tension headache is slow and more incipient than migraine headache and it is less widespread in the nervous system. The intensity of pain may vary from person to person and also in the same person. It can increase or decrease during the day, depending on how much proper rest one takes. Day to day or week to week fluctuations depend on the same factor and of course whether or not one faces or solves the problems. A chronic mother-in-law. If either of the parties is removed the headache problem is solved. Headache of this type can cause other damage not obviously related to the head pain. Chronic headache has been known to cause suicide.

Then there is migraine headache. Most migraine attacks have certain features in common. Two third of the migraine patients report that the pain is one side of the head only. Most migraine attacks are associated with, or preceded by stomach and Intestinal disturbances which produce nausea vomiting or anovexia. Mood disturbances and changes in the nervous system . . . like numbness in the face or hands are also sometimes associated with the attack.

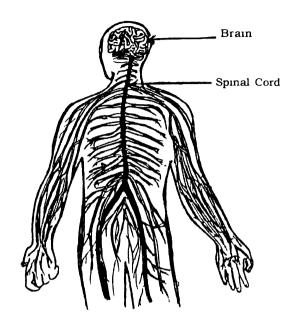


Fig. 1 4 . The Nervous System

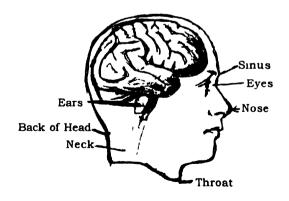


Fig. 1.5: Some Causes of Headaches

Then there is common migraine. This is a severe headache of a throbbing kind. One feels unwell, run down and one's head feels very heavy. The pain can be located on one side of the head as in classical migraine, but it can also occur on both sides. The attack can go for hours. If not days, such type of migraine has often been reported by women around their menstrual period but this is now thought to be a different type of migraine. What differentiates common from classical migraine is that the common form is less severe and does not seem to be preceded by anything like the visual and other sensory Experiences common to classical migraine which is a painful and unpleasant syndrome that is most easily recognised by its chain of reactions. First, the person Experiences a whole series of what seem quite odd sensory events. He or she often feels an air of unreality, as if they are not there in some way. Though physically present they feel mentally removed. Ouite soon after this come several possible disturbances. Part of the visual area may be patchy or obscured by flash lights. Then nausea may be felt and sometimes motor disturbances like feeling dizzy, inability to speak properly and so on sometimes some signs of migraine blame food particularly when the patient is being under weight or over weight despite a healthy diet, persistent fatigue and generally feeling unwell, there is swelling at the joints and recurrent ulcers in the mouth, there is palpitation and a rapid heart rate after a meal, there are some problems with digestion, the patient is feeling ill when he wakes up in the morning. The patient feels depression and anxiety.

Headache can be caused by a pretty wide range of things and not by a single factor. We have to distinguish between simple and complex causes of events. Modern medicine is slowly modifying its theory of diseases to encompass the need to have a more complex theory of

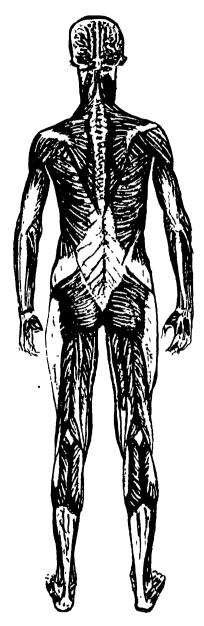


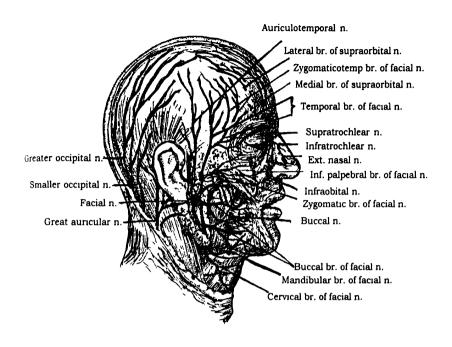
Fig. 1.6: Neuro-Muscular System

cause. Until quite recently it was thought that diseases were caused by external factors infections, germs. traumatic events and so on ... invading the essentially sound and antiseptic body. Getting rid of the foreign invasion it was thought, restored the body to normal an Idea that is only partially true. No doubt some diseases do operate like this but the total picture is much complex. For instance we take the Example of cold. One catches a cold "germ" and as the upper respiratory tract infection sets in one feels miserable. But why does a person get a cold at some times and not others. Cold germs exists most of the time. The answer probably lies in the fact that sitting in draughts apart, there is a complex relationship between one's level of resistance to respiratory tract infections and one's general psychological and emotional state, one's level of fatigue and bodily condition. The head is, after the heart, the single most important unit of the body without it everything else ceases. The brain is the body's head quarters., it organises and regulates much of the activity of the rest of the body. More important still is the fact that the head is the source of consciousness and through this our experience of and contact with the entire psychological and social world around us. This makes at least three possible sources of headache. Disturbance from the environment, disturbance from the body itself; either through injury or illness and disturbance from within its own structures. Each of these can arise at the same time and interact with the others. Most pain is registered primarily at the sites of entry and Exit of the brain's blood supply. Change in the pressure of the cerebrospinal fluid... fluid that effects the nervous systems via the brain and spine can also cause head pain. An artery or vein can be interfered with by traction, that is movement of parts of the brain. When one has, for example a lumber puncture to investigate the state of

one's cerebrospinal fluid, the entry of the needle in one's back to sample the fluid lowers the pressure of the fluid, causing the brain to pull against its supports. This traction literally pulls or jars the blood vessels and one gets a headache at the site of this jarring--- that is in the head. Any kind of head injury... a blow to the head, a whiplash injury or less seriously the effects of sudden. halt as in a car, cause headache through movement of the brain and brain vassals. Like a bruise on the arm which swells outward, a bruise in the brain swells and pushes other organs out of place. Moreover, Infections like fevers, encephalitis or meningitis can cause inflammation of the blood vessels which stimulates the pain receivers. Some substances carried in the blood can cause painful swelling in the vessels, particularly substances that regulate the blood flow, chemical poisons and in some foods. The complexity arises, however, because while such things in the blood as histamine and Bradykinin and certain poisons always cause head pain. Sometimes the same person can eat same food on separate occasions and get a headache on one occasion but not on the other.

One can get headache when one experiences physical problems such as having a period, high blood pressure, from exposure to extreme sound or light or sometimes from constipation. But there is sufficient doubt whether each on its own actually creates an effect on the blood vessels of the brain.

Now we will discuss headache as a psychosomatic problem. It implies that a physical problem was caused by one's psychological state. Literally every illness is psychological. Now this belief has also changed. The vogue thing these days is biochemistry, everything is caused by chemical. We now talk about biorhythms, neurochemistry, DNA, RNA hormones. The mind has been reduced in importance. The swing now to



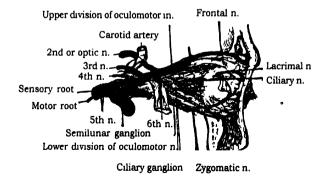


Fig. 1.7: Nerves of Head and Orbit

biochemistry is probably a reaction to the Initial obsession with the mind.

There has been lot of ignorance about the term psychosomatic and its relation to medicine. To psychology and to the newer theories of biochemistry. By saving that something is psychosomatic does not mean that a physical event is caused by mind. If an event in the physical or somatic realm involves more than the simplest of basic bodily activities, then the chances of higher bodily functions especially brain or central nervous system functions involved is very high. If this is the case then we are dealing with psychological functions as well. The higher brain functions can be equated with psychology. It is clear that to say that something is psychosomatic is to say that a physical experience has a higher---order brain or psychological cause that determine the experience. Since Headache is a physical pain felt in the head. The immediate descriptive cause of it is pain caused by muscle tension or blood flow disturbance but the explanatory cause is probably psychosomatic. This means that until we know the precise sequence of causes, we have to regard it as falling some where in the higher brain and psychological functioning of the Individual. Then we have to tackle the problem from all sides---to see which psychological, physical, social and biochemical events cause headache. We have to be very careful about the complexity of the problem. For example if we find that hitamine (a biochemical) causes headache, we have to ask what causes hitamine to cause headache.

When one gets a headache, several things happen about the same time. The order of chain reaction seems to be as:- One's physical or social Environment upsets or disturbs one, and the person reacts by activating his or her body in ways that we are not clear, about but among other things, he activates his autonomic nervous

system which transmits orders to his muscle and blood vessel network. One psychosomatic theory propounds that Exposure to certain traumatic incidents (birth, parental, sex, one's sexual desires) have so upset the person that anything that reminded him or her of the original trauma would cause a headache. It is said Headache people are highly ambitious, for example rigid and controlled in their behavior and of course, perfectionists. A talented and conscientious person who likes to be liked, to be approved of, works hard and in the process fails to express normal tension and angers for fear of disapproval is bound to get headache. People with highly developed histories of headache such as chronic headache and migraine seem to come from families in which prestige, pride and convention run in glove with subservience. This ensures that the growing child both obeys the family ethic and feels in some way that he or she can't cope. Anger and frustration at this failure, together with fear of exposing the failure causes the headache. Some experts regard this type of headache as a means of self-punishment. Others regard it as an inability to tolerate stress and frustration.

There is another problem which needs consideration. Most of the research has been done on patients---people who have got so desperate they have sought help from a clinic or a psychotherapist. People who suffer from any kind of pain for long time tend to get obsessional, depressed, resentful, angry and frustrated. It is quite possible that these traits not only may arise as a result of having headache but that they may infect have nothing to do with headache.

Headache is a warning. We can ignore it on some occasions, Especially if they are infrequent. But to ignore chronic or recurrent headache is a folly. Taking pain killers habitually is to ignore head pain. All we are doing is reducing the pain not attending to the signal.

Moreover we have created for ourselves another problem out of the first chronic use of pain killers. These tranquilisers, sedative and drugs act like cotton wool. Being on a tranquiliser or drug does not improve the Individual's capacity to organise his or her central nervous system. Many major tranquilisers and antidepressants have unpleasant side effects that require other drugs to suppress them. Even mild sedatives can affect some people unfavorably Long-term use of tranquilisers is not to be encouraged. In some cases and with certain drugs, the effects of prolonged use can be dangerous.

Things have changed in more recent times. Possibly because people have become more used to trends in eastern philosophy. New and unusual techniques have been tried with some positive results. Transcendental Meditation, Yoga, acupuncture and hypnosis are now accepted respectfully. These techniques are all founded on theories of bodily functioning that are not yet fully explored. Acupuncture, for example operates on the premises that pain can be relieved it not eliminated by placing needles into key nerve points all over the body.

Meningeal Irritation, whether due to meningitis hemorrhage or other cause produces generalised headache which is accentuated by head movement, coughing or straining. Involvement of the roots of the cranial nerves contributes to headache by causing spasm of occipital and nuchal muscle. Neck stiffness is an important sign of meningeal inflammation. Extracranial inflammation usually causes more localised headache. Cranial arteritis is a disease of later life characterised by localised throbbing pain in the head.

Sometimes disease of structures in the head may cause pain. Eye disease such as Glaucoma and Iritis causes frontal headache. Ciliary spasm induced by some

errors of refraction may cause pain. Nasal and sinus disease causes pain in the malar, nasal and frontal areas which responds to nasal vasoconstrictors. Dental, aural and tempore---mandibular joints disease may cause pain spreading for beyond the area of primary pain. Migraine is more common in women than in men. Before the puberty, migraine occurs more frequently in Boys than in girls, but after menarche (the girl's first period) the frequency of migraine increases among women moreover, women are more prone to migraine at the time of menarche, the start of each menstrual cycle maintains a balance between hormones produced by the brain's pituitary gland and the hypothalamus, and those released by the ovaries. The uterus itself produces hormones which can cause painful menstruation and headache. Girls fall prey to migraine when they have their first menstrual period menstrual migraine occurs between 2 days before a period and three days after it starts. Menstrual migraine can occur any time during the menstrual cycle.

Allergy can be the cause of headache with many people. People have an allergy when their bodies are sensitive to substances most other people's bodies are not. The allergic person may have distressing symptoms from what he breathes, eats or touches, while the non allergic person is not troubled by them. The normal individual enjoys a bright summer day unaware of the tiny, microscopic pollen grains in the air. To the allergic person this same summer day with its pollen grains means Headache. The non allergic person enjoys his food. The person allergic to a particular food may have, if he eats it, stomach pain and Headache. The normal woman can enjoy a beautifully dyeddress. The person allergic to the dye used may develop an intense itching rash and Headache on the slightest contact with it. The cell of the body of both allergic and non -allergic person

can distinguish between "self" and "non self". In other words they recognise substances which are Identical in composition with them and accept them as harmless, while they recognise those that differ in composition as foreign and potentially harmful. Entry of such foreign substances as bacteria and foreign proteins is prevented by the surface covers which separate the body cells from the outside world. These include the skin, the linings of the breathing, digestive and reproductive tracts. These covering actually form one continuous sheath. It differs in appearance and structure in the different areas, but it is alike in separating our internal cells from the outside world.

Smokers may have allergy to tobacco which may be overlooked in the belief that they are merely Irritations from too much smoking. The symptoms of hey fever are familiar to most people. They include sneezing attacks or itching or running nose or eyes. These are the familiar symptoms of nasal allergy, but many patients have less typical complaints. They complain of a blocked nose because of the swelling of the nasal membranes, but have no sneezing or Itching. If the sensitivity has come on gradually and has been present the year round for many years, the patient may have become so accustomed to the blocked nose that he accepts it as "normal". These patients frequently awaken with a dry mouth because they have breathed through their mouths during the night. They may have headache and temporary or permanent loss of smell due to swelling of the nasal lining. It is essential to find out the causes of allergy. It is not enough simply to recognise that a person has nasal allergy. The allergic person is seldom sensitive to only one thing, he may be sensitive to a dog, a cat, feathers, molds, pollens to several or all these things, unless all the causes are determined the patient can be helped partially.

# Types of Headache

Headaches can be classified according to their symptoms and characteristics. Headaches can be either simple or chronic, primary or secondary.

# Tension Type Headache

We are living in an age of stress and strain, strife and struggle. Most people are under stress and tension. Tension in the popular language can be defined as an Excessive demand on physical and mental energy resulting in anxiety, anger, distress, fear, frustration and irritability. All these cause a rise in blood pressure and Headache. Of course, innumerable causes can be attributed to tension and stress. Death of a nearest and dearest one, divorce, retirement from work, detention in jail, pregnancy, deplorable behavior of a family member, separation of son from home, differences with spouse, personal injury, sexual disorders, bankruptcy, loss in business, demotion or termination in service, conflict with in-laws, wife working outside home, failure in examination, trouble with the boss, taking loan for purchasing a car, TV., sleeplessness. These are some of the common causes that can cause tension and stress. In fact stress and tension are becoming integral part of our life. Be it a house wife, a working woman, a professional an employee a farmer, a business executive, a teacher or a student. Today in every walk of life, we

undergo a little or big amount of tension and stress. A stressful life style resulting from day to day problems of finance, education, family, work, travel, insecurity of job-all these can result in temporary or chronic headache.

## Migraine

Migraine is a very severe throbbing headache usually on one side of the head, that is often accompanied by disturbances on vision, Nausea and vomiting. Migraine is a common condition and seems to be triggered by any one or several of various factors. These include, anxiety, tension, stress, fatigue, watching television, loud noises, flickering lights, dazzling lights and certain foods. Migraine may involve constriction followed by dilation of blood vessels in the brain and an outpouring of fluid into surrounding tissues or a disturbance of the balance serotonin, a neurotransmitter. Attacks of migraine range in severity and can last for several hours, days and weeks. Migraine is of two types i.e., migraine without aura and migraine with aura. In migraine without aura, repeated attacks of migraine occur and the attack usually lasts from 12 to 48 hours. Other symptoms may be dizziness, frequent urination, diarrhea, sweating and cold hands and feet. Migraine with aura refers to visual symptoms that occur before or at the same time as the headache. This lasts 25 to 45 minutes. The most common symptoms of visual aura are coloured spots, bright lights, zig-zag lines. If the aura symptoms persist for more than two hours, they could be attributed to some serious abnormality.

#### **Exertional Headache**

Exertional headache is caused by over-Exertion, mental or physical labour or Exercises, and sometimes by bending, coughing and sneezing.

### Sex-Headache

This type of headache occurs more in men than in women at the time of orgasm. Sometimes due to sex disorders and coital defeats this type of headache can occur. Sexual anxiety can also give rise to this type of headache

#### Cluster Headache

Cluster headache is a migraine variant precipitated by the injection of histamine. It is also called histamine, headache. The pain occurs on one side of the head in and around the eye. In this type of headache, the patient feels intense pressure behind the eye. The patient feels so uneasy and upset that he feels like plucking out the painful eye. Other patients feel like red Iron rod thrust into the eye. This pain may last for many hours. Attacks may occur many times during the day. Cluster headaches occurs at the same time of the day or night.

## **Episodic Cluster Headache**

It is more akin to cluster headache but in this headache the patient may get this once a year and the pain may last for many weeks. Sometimes this type of headache gives wrong signals of dental problems. Episodic cluster headache may appear once a year but chronic cluster headache may occur daily and continue for years.

# Spinal Headache

This type of headache follows spinal anesthesia in 3 to 30 percent of patients. It is usually frontal or occipital precipitated by sitting or upright posture and the patient feels lot of relief by lying down. This type of Headache is postulated to be due to leakage of cerebrospinal fluid from subarachnoid space through the site of the puncture.

## Dynamite Headache

It is called "Power Headache" also. It is an intense throbbing headache affecting workmen and others handling high explosives. It can recur daily and last for many hours.

#### Nodular Headache

In this type of Headache the patient feels radiating pain in the Head accompanied by nodular swelling in the splenius, frontalis, trapezius and other muscles. This type of headache can appear anytime and last for hours. Billion headache symptomatic headache, vascular headache, sick headache, reflex headache, blind headache resemble migraine.

#### Post Traumatic Headache

This type of Headache is caused by injury to the head or neck. This headache occurs on both sides of the head. The intensity of the pain may be mild or severe. The pain may last for may months with slight fluctuations some patients with post traumatic headache may also develop post-head trauma syndrome which can harm their concentration, memory, sleep and ability. Patients suffering from migraine or tension-type headache may deteriorate after getting this type of injury.

#### Horton's Headache

It is more or less the same as cluster Headache the patient gets shooting pain on one side of the head. But the attacks occur infrequently and the pain lasts for an hour or so. Generally artists, poets, writers get this type of Headache.

# Neuralgic Headache

Neuralgic means nerve pain. In this type of headache, the patient feels pain of a severe, or stabbing character in the course of distribution of a nerve. Degenerative neuralgia is caused by the degenerative changes in the nerve or its central origin. The patient feels piercing and severe sudden pain in cheek or jaw on one side. The pain lasts for a couple of minutes and the pain is aggrarated by talking, chewing or by Exposure to wind.

### Hemicrania Headache

This type of headache is more akin to migraine. It is more common in women than in men. This type of headache can occur many times during day or night and the pain in this headache lasts for a couple of minutes only. The patient experiences pointed pain in one side of the head.

### Cold-Stimulus Headache

This type of headache occurs between the eyes or around mouth after eating or drinking something very cold. The pain lasts only for a couple of seconds and the Intensity of the pain is mild and bearable.

# Headache in Women

"The beauty that doth off make them proud Tis virtue that doth make them most admired.

-Shakespeare

Indian woman has a long history. In India during the vedic period, where greatness was based on high soul and spiritual progress, women enjoyed perfect equality as no where else then. Spiritually advanced women like Lopamndra and Ghosha became rishis of some vedic mantras and hymns which means vedic mantras were revealed to them and they gave these to humanity. There were women warriors like Vipula and Visavara.

But the middle ages, when might was right, were the dark ages for women. Equality was thrown to the winds. There prevailed the cruel system of sati which condemned millions of women to be burnt alive at the funeral pyre of their husbands. If the wife died, the husband could marry the next day, but if the husband died, the wife either committed sati or had to pass all her life as a wailing widow. It was a living death for her. Her condition was no better than an unpaid housekeeper.

The woman got back her status and importance in the modern scientific age. When brain took the place of brawn. For in brain power, women were as good as in some cases better, than men. Now even wars were won in the laboratories and fighting became a matter of manoeuvering machines and computers. Today, bigamy and polygamy have become criminal offences. Before the passing of Hindu Marriage Act (1955) any rich man to prove his overlordship turned out his wife and married young girls. Now law gave to women security of service in their universal profession of marriage. Not only this, women in free India began to invade all sorts of professions such as nursing and teachership number of women now became doctors, lawyers, engineers, architects, businessmen, editors, pilots officers and did all sorts of work. Modern women is an embodiment of virtue, humility, loyalty, tolerance and self sacrificing woman's lib is making advances. The modern eve is determined to be free from male domination. Already her future is bright, her goal is clear, but she has many miles to go.

In the current 'socio-psycho-political milieu she has to face the stress and strain, struggle and strife at every step in every walk of life. She has to experience headache within and without, from internal and external environment. Headache is four times more common in women than in men. Prior to puberty and after menarche (the girl's first period) migraine and cluster headache occur more frequently in women. Women's susceptibility to cluster headache and migraine increase at the time of menarche, at the start of each menstrual cycle. At the time of using oral contraceptive, at the time of early pregnancy and at the time of menopause.

Menarche is the start of menstruation for the first time which occurs between 9 to 18 years of age. Menarche generally takes place 3 or 4 years after the first signs of

puberty and is related to the critical weight of young girls. Menarche before 9 may be precaucious puberty or because of a disease affecting the endocrine organs. Some girls at the start or after menarche develop neuralgic headache or migraine or cluster headache. Menstrual cycle is the periodic sequence of events that prepares the living of the uterus for implantation of a fertilised egg and normally ends on menstruation. The cycle can vary between 23-25 days but the average length is 28 days. The menstrual cycle is regulated by the interaction and levels of certain hormones that control maturation and release of an egg from the ovary. Development of the endometrium and shedding of this as blood when no pregnancy occurs. The cycle begins on the first day of menstrual flow when the Endometrium starts to be shed. In menstrual flow or vaginal bleeding that happens as a result of the menstrual cycle. The bleeding normally lasts 2-7 days is called the menstrual period. The fluid consists mainly of blood but also cervical mucus, bacteria and cells from the Endometrium. The normal pattern of flow differs from woman to woman, both in total amount and in number of days. It also varies throughout the lifetime of an individual. In the menstrual period ladies often get headache, or migraine or cluster headache sometimes mild and sometimes severe. It is called menstrual migraine or menstrual headache attacks women often get headache and migraine, sometimes mild and sometimes severe after Episiotomy, a surgical procedure in which the perineum is cut to enlarge the vaginal opening, carried out in delivery normally during the second stage of Labour as the body's head is crowning. A local anaesthetic is injected into the perineum and an incision is made towards the anus. After birth the cut is stitched and the stitches may dissolve or fallout after a few weeks.

Many women get more headaches during the first four months of pregnancy. The frequency of headache may decrease after six months of pregnancy. With some women the frequency of migraine also decreases during the last five months of pregnancy.

Some women develop chronic Headache or migraine due to ovary or both. It is the fifth most common cancer in women and one that has a fatality rate of 80 percent. It mainly affects women after the age of 40. Women who have had the maximum number of periods i.e., who have never been pregnant are more liable to develop this disease. The disease is difficult to detect early as few symptoms appear. Pelvic pain severe headache, abdominal swelling, weight loss, Nausea may occur. Headache or migraine can occur in women who have ovarian cyst that develop in the ovary. It can be benign or malignant. Cysts can arise at any age in one or both ovaries. Many ovarian cysts are termed functional i.e., they develop because of the normal functioning of the ovary during the menstrual cycle. If an ovarian follocle fails to release an egg, it can become a cyst.

Migraine or headache can occur to women before and after menopause (Change of life). Menopause is the period before and including the end of menstruation. This normally occurs between the age of 45 and 55 but a premature menopause may happen earlier. The ovaries stop producing eggs and menstrual flow ceases and the woman is no longer able to have children. Generally, the menopause arises gradually, with menstrual periods changing in frequency and level of flow. After periods have ceased for 12 months. The menopause is usually complete and the woman is said to be postmenopausal. There is a hormonal imbalance in the body during the menopause. This causes menstrual Irregularities and the physical symptoms include hot flushes, night sweats, fatigue and severe headache. The hormone imbalance

can also cause anxiety, depression, irritability, insomnia and attacks of migraine.

Every woman has a different experience of Menopause. Most of the women experience certain symptoms. Some hardly notice any change while others experience moderate hot flushes and depression. A few have more intense sleep disturbances, depression, anxiety, loss of libido (Sexual desire), headache backache and vaginal dryness.

Headaches can occur frequently with women suffering from menorrhagia, menstruation with abnormally heavy or prolonged blood flow. Menorrhagia can occur because of fibroids, inflammation in the pelvic cavity. The bleeding can cause anaemia with pallor and fatigue and severe headache.

Some women get attacks of Headache due to anovulatory bleeding which is bleeding from the vagina without ovulation. In most women during the regular monthly cycle, where oestrogen stimulates thickening of the uterine lining, there is release of an egg from the ovary. The egg is either fertilized and implants in the uterine lining or the extrauterine tissue is shed as a menstrual period. If no egg is produced, the whole cycle is disturbed. It is due to this disturbances that the woman gets severe attacks of Headache.

Since women are more sensitive than men. Women appear to suffer from anxiety and other psychiatric disorders more than men. A small degree of anxiety is normal at some stage in most people's lives, but it can develop into an emotional disorder characterised by feelings of fear and terror. The sufferer may have panic attacks with symptoms of increased heart beating rate. A rise in blood pressure, pallor, sweating, insomina and severe Headaches. Some women get simple or severe Headache due to anorexia nervous which means an

eating disorders in which the victim starves herself and there is loss of at least 25 percent of normal body weight. The term anorexia nervosa implies a loss of appetite due to nervous causes. Anorexia may start in adolescence of puberty but can develop in people in their thirties. It mainly affects women. In anorexia, the patient is often secretive about self-starvation, induces vomiting and gets severe attacks of Headaches.

In our country, women generally have deficiency of calcium and deficiency of blood. They are anaemic Anaemia implies a shortage of the oxygen-carrying pigment. Haemoglobin in red cells. Each red blood cell contains 200-300 molecules of haemoglobin, so vitamin B deficiency can cause anaemia. An anaemic woman gets dizziness, weakness, fatigue, pallor and frequent Headaches.

Some women get frequent attacks of Headache due to amenorrhoea (absence of periods) a failure to have periods, which may be described as primary or secondary. Primary amenorrhoea is the failure to menstruate by age 16 and the main cause is the late onset of puberty. A girl may have the other signs of puberty (Breast development, underarm and pubic Hair, growth support) but lack periods. This may be because of a pituitary Tumour. This can cause hormonal imbalance and the symptoms of this disease include fatigue, obesity and frequent Headaches.

With some women, miscarriage can cause Headache or migraine. Miscarriage (spontameans of natural abortion) is the loss of a foetus before the 28th week of pregnancy. After 28 weeks, death of the foetus is known as still birth. A miscarriage can occur because of maternal or foetal factors, including defects of the egg or sperm. The risk of a miscarriage increases with a woman's age. Also exposure to certain Industrial

chemicals, radiation, tobacco smoke, consumption of alcohol may contribute to miscarriage. The main symptoms of miscarriage are bleeding from the vagina, severe backache, abdominal cramps and severe Headache. Miscarriage can be a deeply distressing occurrence, with feelings of guilt, anger, fear and grief. Then there is abortion, the termination of a pregnancy before the foetus is capable of living. It may be induced by medical or surgical means or it may be spontaneous or natural. Abortion in the former sense has been controversial for hundreds of years and is illegal in many countries. Abortion is a complex Issue with strong emotional connections. Many pregnancies that are terminated result from unprotected sex, failure of contraceptives and rape. Facing the fact of an unwanted pregnancy can raise feelings of guilt, grief and cause severe attacks of headache.

With some women any disorder in apocrine glands can cause Headache. Apocrine glands located in the pubic and underarm areas that secrete an organic material with a sexually stimulating odour during sexual arousal. The scent is trapped by the pubic and underarm hair. Women have 75 percent more of these glands than men, and they develop during puberty. Apocrine glands are also located around the navel, Labia and the nipples. Undeveloped glands or any disorder in glands can cause severe Headache.

The hangover Headache is common with women of affluent of aristocratic families who drink alcohol. This can affect both men and women. After taking alcohol, they feel drowsy, dizzy and tipsy and get mild or severe attacks of Headache.

Sometimes anxiety over the air Travel can cause Headache to some women who have weak respiratory system. Air Travels may cause "Jet lag" which in turn may cause Headache to those women who are sensitive to disruptions in their daily schedule of meals and sleep time

Women suffering from autoimmune disease are susceptible to headaches. Autoimmune disease is a set of disorders in which the body attacks is self by manufacturing antibodies against normal tissue. Examples include rheumatoid arthritis and pernicious anaemia and several forms of disorder including Graves disease. This disease is far more prevalent in women. This may be related to the fact that women support the growth of foreign tissue in pregnancy, requiring the production of specialised substances to suppress the Immune responses.

Headache, mild or severe in women can be due to Hypertension (high blood pressure). Blood pressure has two components, Systolic and diastolic pressure. The systolic is the pressure in the artery that occurs when the left ventricle of the heart contracts. Diastolic pressure is that recorded when the ventricle dilates and refills with blood. Primary hypertension is the elevation of systolic and or diastolic blood pressure on its own. Secondary hypertension occurs because of a kidney disease. Symptoms of hypertension include headache, palpitations, swollen, ankles, angina (Heart pain) and shortness of breath. Blood pressure rises gradually with increasing age. The artery walls become less elastic and more pressure is needed to keep the blood flowing. Women on the combined oral contraceptive pill may develop hypertension. Hypertension can increase risks in pregnancy for mother and child. Pregnancy can induce hypertension causing pre-Eclampsia.

Some women get headache due to insomnia i.e., inability to sleep or disturbed sleep. It is a very common problem that can arise because of anxiety, stress, physical pain, depression and menopause. Insomnia is common during pregnancy.

Majority of women suffer from headache and migraine due to myalgic encephalomyelitis (ME) a disorder in which there is muscular pain, fatigue, general depression, loss of concentration and memory and blurred vision. 80 percent of the cases seem to result from viral infections. The disease tends to develop in the 20-40 age group. Some women get attacks of headache due to premenstrual tension which occurs for upto 10 days before the menstrual cycle. Such symptoms as headache, nervousness Irritability, emotional disturbance, depression, fatigue with other physical manifestations such as swelling of legs and breasts and constination are common.

Sometimes scoliosis, progressive lateral curvature of the spine which is more common in females may cause severe headache. This disease may begin in puberty and leads to the contraction of the ribs. It can also be caused by severe chest disease such as tuberculosis.

Some women get headache due to disease called Turner's syndrome. It is a disease of genetic disorder affecting females in which there is only X-Chromosome instead of the usual two. Hence, those affected have webbing of the neck and other developmental defects.

Perfect health for all is the final aim of all. Physical well being means all the organs in the body are of the body, brought about by enough food and correct food, the right amount of exercise and attention to the rules of health mental well being has a very important connection with health. Worry causes many ailments. Worry also upsets the digestive system. A person working at a boring job or a person not interested in his work, may become mentally depressed. Mental well-being comes from an active attempt to stimulate the mind. Social well-being is brought about by consideration and thought for others. Social well-being has a direct effect

on physical health. Only when a person is completely adjusted to his environment both physical and mental can he or she finally obtain true health.

# **Yogic Treatment**

Yoga and meditation are fairly closely related methods in solving concepts of peace of mind and bodily control based on certain Eastern philosophies of India, China and Japan. Yoga focuses on Asanas, diet, pranayama and attitudes of mind all being linked in an attempt to get the body and mind of the person to operate, in an easy, relaxed and flowing unity. Meditation has a similar aim but achieves it by making more use of mind's control over the body. As far as headache goes, it would seem that yoga would have the most to offer to people who are not easily able to take abstract notions and convert them into bodily relaxation. Yoga and Transcendental meditation both seek to improve your ability to relax and much the same aim is embodied in the new behavior therapies. Growing out of psychotherapy, they appear to offer the most hope for the future. Yoga, psychoanalysis. transcendental meditation and psychotherapy work for people who can take the concepts of relaxation and anxiety reduction that are involved and translate them into actual material changes in their personal and neural systems.

Since most of the headaches, are the result of biological mechanisms in the brain, blood vessels and muscles. Yoga is important for many aspects of physical and mental health. Regular Asans are important throughout life as they enlarge lung capacity, improve digestive system, lower body weight, promote good posture and relaxation and encourage good sleeping patterns. Asans reduce the chances of developing heart ailments, backaches. Asans and Pranayama can boost energy levels and reduce fatigue, tension and period pain. Asans and Pranayama for strength, suppleness and stamina can considerably improve life expectancy and vigour in old age.

Yoga has its own therapy which is a specialised form of yogic culture. It is different from the medical system because in it the external agent (Medicine) does not play the primary role of health of the patient. It is the patient himself whose personal understanding constant practice of Asanas and Pranayama and understanding of the disease cure his disease. Yoga is an ancient science and art. Yoga-therapy does not aim at merely giving superficial relief. This therapy leads to an integrated and complete cure of the five constivents, i.e., panch koshas of human beings. Annamaya Kosh, Gross physical body, Pranayama Kosh, Pranic sheath. Manomaya Kosh subtler psychic sheath vidnamaya kosh power hour of intelligence and thoughts and Anandmaya Kosh, Divine Grossamer. Since this therapy leads to an integrated and complete care of the five constituents of human beings, it requires the knowledge of anatomy, physiology and psychology.

The materia medica of yoga therapy has derived its strength from the many branches of yoga, Raj Yoga and Hatha yoga. Raj Yoga has a psycho-spiritual approach and Hatha has a mainly physico-psychological approach. Yoga therapy lays emphasis on four steps:-

- 1. Yogasan
- 2. Pranayama
- 3. Diet
- 4. Yogic principles.

# Yogasanas

Today, the word Asana has become so popular that people say Asana means yoga and Yoga means Asana. Early morning, a person get to do exercises and yogasans. If you ask him where are you going his reply would be. "I am going to do yoga". Asan is only one aspect of yoga. It is the third rung in the practice of yoga. Asana means a comfortable seat. It is a pose of the body or posture in which one can sit or stand comfortably. These asans of the Hatha Yoga are coupled with certain other practices, called Bandhas, Mudras and Krivas in addition to Pranayama. Asan is a pose, Bandha is a lock of the limbs of the body intended to direct the prana in a particular channel. Mudra is a symbol. It also means a seal of fixing up of limbs. Kriya is a process of purification so that body may be fit for asans. Before discussing asanas, it would be imperative to define yoga. The word yoga has a long history. It is an integral subjective science. Its spiritual, mental and physical import cannot be separated from each other. According to Panini, the grammarian, the word yoga is derived from two roots, i.e., Yujir and Yuja ... one referring to yoking (Yujir Yoga) and the other referring to mental concentration (Yujsamadhi) and to sense control. Yoga standing for mental concentration is the theme of the entire Indian system dealing with yoga. Yoga also implies the control of senses. According to Patanjali yoga means controlling all activities in the mind's substance "Citta Vrithinirodha".

Yoga is a science of physical and mental control. It is a system of self-renewal, renewal of mind and body. It can be a means of acquiring a slim, supple and healthy body. It can also be a way to achieve inner tranquility. It is also a path to great spiritual attainment. Our ancient rishis and sages have given eight aspects of yoga which are:-

# Yama (Social Discipline)

Yama means self-restraint. It is the first stage of yoga. Yama suggests five normal practices mentioned below:-

- a. Non-Violence (Ahinsa):- Nonviolence means not to cause injury or not to hurt any creature mentally or physically through thought, word or action.
- b. Truthfulness (Satya):- Satya or Truthfulness means saying Exactly what one sees with one's own eyes, hears with one's own ears and understands through one's own brain. It suggests both internal and external truthfulness.
- c. Non-stealing (Asteya):- It means not to be greedy and acquire other's wealth or possession physically or mentally or by speech.
- d. Celibacy (Brahmcharya):- It means to keep one's sense under control and not to be allured or tempted by sensual or lustful enjoyment through word thought and action. Brahmcharya also suggests moderation in sex between married person.
- e. Non-Greedy (Aparigraha):- Hoarding of wealth and means of sensual pleasures and other materials of enjoyment is parigraha the absence of these is aparigraha.

# Niyama (Individual Discipline)

The second aspect of Asthang yoga is Niyama. The Niyama is of five kinds:-

a. Shaucha (purity):- It means both internal and external purity. The body can be kept both clean and pure by sattwic food and six types of yogic purifications i.e., Neti, Dhauti, Basti, Nauli, Trataka and Kapalbati. Mind can be kept pure by abandoning six enemies lust, anger, awarice, temptation, pride, and vanity.

- b. Santosha (Contentment):- It implies that one should feel satisfied with whatever one gets while doing one's duty truthfully.
- c. Tapa (Austerity):- It implies conquest of all desires and sensual pleasures by maintaining purity in thought word and deed. It also means keeping the mind detached and under control to bear pain and pleasure, heat and cold with equanimity.
- d. Swadhyaya (Self-Study):- It means self-introspection and study of scriptures and sacred books to gain knowledge. It also suggests spending of one's time in the company of spiritual teachers and Exchanging Ideas with them.
- e. Ishwara Pranidhana (Surrender to God):- It suggests pure and complete dedication to God. It is the total surrender of self and property to God.

# Asana (Posture)

The first physical aspect and third stage Ashtang yoga is Asan. Any posture that is performed steadily and with ease is called Asan. Asanas are for the control of the body and mind, purification of our mind, veins and nerves and promotion of general health. Asans tone up the internal and external organs of the body and give energy, vigour and vitality.

# Pranayama (Breath control)

Prana is the vital force which pervades the whole cosmos. It is in all things animate or in animate. Prana is more subtle than air and can be defined as energy that is within everything in the universe. Pranayama is series of techniques which control the normal breathing cycle and which stimulate and Increase the vital energy.

# Pratyahara (Discipline of the senses)

It means withdrawal of the senses from outside objects and projecting them inwards. The practice of pratyahara brings the senses under control, the pure and peaceful mind can then be focussed on any object.

## Dharna (Concentration)

It means focussing of the mind on an internal or external object. Pratyahara brings the mind and senses under control, the pure and peaceful mind can be focussed on any object or on the Individual self.

# Dhyana (Meditation)

When one succeeds in maintaining focus of attention continuously it becomes Dhyana (Meditation). Dhyana purifies the mind of Rajas and Tamas Gunas and lights the mind with sattwa gunas.

# Samadhi (Self-realisation)

The last stage of Ashtang yoga is samadhi. All this stage one attains the state of super-consciousness and perfect calm. In samadhi, the mind loses the sense of duality with the object of concentration (Dhyana). At this stage one's Identity merge in meditation. Supreme bliss, free from pain or pleasure is then experienced. The dharna dhyana and samadhi are called samyams (Internal yoga). The first five stages-yama, Niyama, Asan, Pranayama and Prtyahara form the external yoga. If all the eight steps of ashtanga yoga are practised, the practitioner gets all round progress in life-physical, intellectual and spiritual.

Regular practice of Asans is highly beneficial for the purification of veins and nerves, and promotion of sound mind and sound body. Asans are of three types. Those which are associated with concentration and meditation such as Siddhasan, Swastikasan, Padamasan and

Sukhasana. The second type of Asans are meant for the healthy growth of internal and external organs of the body such as Sarvangasana, Bhujangasan, Chakrasan, Salabasan, Shirshasan, Mayurasan and Garbhasan. The third type of Asans are meant for rest and relaxation such as Shavasan, Advasan, Jayestikasan, Makarasan and Matsyakridasan. The proper technique of asans is very essential. The body is a kind of horse to take you to destination. This horse is to be properly fed, regularly exercised and well looked after. We remember the moral story how the soldier lost the battle, because the horse of the soldier fell, the horse fell because his shoe fell, the shoe fell because the nail of the shoe fell. This is how for want of the care of the smaller part of our body, the whole body can be affected.

Yogasans help in mental, physical and spiritual development. There is no age or sex bar in doing asans. The regular practice of Asans improves the main systems namely Digestive system, Circulatory system, Nervous system, Respiratory system. The endocrine system is also controlled and regulated by asans. Asans make the body supple and flexible. The regular practice of asans increase the power of concentration, equilibrium and vitality. The spinal cord is termed as tree of life. The branches and leaves of this tree are ramifications of the nervous system which spread to the near and distant parts of the body.

The functioning of the nervous system depends upon the spinal cord. With the advancement of age, the vertebra and joints become stiff and rigid. Asans keep the spinal cord supple and flexible. Asans help in the awakening of all dormant powers. The bending and stretching postures, the proper functioning of the abdominal muscles, the purification of the blood resulting from the expansion of lungs... all give vigour and vitality to the mind and body.

The waste matter accumulated in our body is eliminated by asans. As the age of a person advances, several organs of the body become weak or even damaged. The consequent accumulation of chalk-like cholesterol or other impurities in the muscles, the veins and arteries harden and narrow thus making the circulation of blood slow and Irregular. Some diseases are therefore caused by improper elimination of waste matter, such as urine and stool from the body. Yogasans increase the resistance power of the body and keep it free from disease. Asans help in purifying the blood in different blood vessels. When the body becomes clean and flexible ability of doing any activity is also increased. Asans rejuvenate and tone up the different glands of the body. These healthy glands produce required secretion which help proper growth of the body. People doing mental work can increase their thinking power and can have calm and clear mind by doing certain specific asans like Shirshasan, Jeytiska asan, Sarvang asan, Advaasan and Shavasan.

Modern man wants luxurious, unnatural and wrong way of living. He takes sleeping pills and other drugs to get peace and rest. But he gets lot of physical, mental and emotional tension. Our youngmen and women have turned to the use of drugs LSD, Heroin, Hashish, Charas and other tranquilisess. Yoga in totality including. Asans is the only remedy for those people who want to live with peace and happiness.

Concentration has very important place in the science of yoga. During each asan it is important to know where to concentrate. The mode and centre of concentration varies from asan to asan and from beginner to the expert. The beginner should concentrate upon the correct technique of asan until he is able to practise that asan with automatic ease. This stage can be covered in a few days or weeks depending upon the

technique of the asan. After the technique comes the actual performance of the asan. Asans practised in correct and smooth manner lead automatically to concentration. Since different muscles are involved in different asans, the concentration is maintained between the mind and the movements. Finally, the apt should concentrate on the asans strategic points of action. Each asan produces assessed effects upon some part of the body. For example the thyroid region is affected by Sarvangasan, and the solar plexus by Dhanurasan.

In order to get maximum benefits from asans. It is necessary to perform them properly at the proper place and time. Some basic instructions are to be followed before performing asans:-

- a. Before doing asans, the bladder should be empty. If you have problem of constipation drink two glasses of slightly salted water and then practise Tadasan, Bhujangasan. These asans should relieve your constipation.
- b. Asans should be done after Pranayama and shavasana should be done last of all.
- c. You should never give strain to you body while doing asans. Beginners may find their bones rigid and muscles stiff but after regular practice they will become supple and the body will also become flexible.
- d. While doing asans breathing should be done through nostrils keeping the mouth and eyes shut. In simhasan alone the breathing is done through mouth.
- e. Relaxation during and after asans is very essential. Shavasan is the excellent asan for relaxation. It must be done last of all.
- f. During asans, it is better to wear minimum loose, light and comfortable clothes according to season.

Ornaments, wrist watch, necklace, ring, spectacles should be removed before doing Asans.

- g. Yoga practitioner should pay proper attention to food which gives energy, vigour, and vitality. It is better to take sattwic diet which is light and balanced. One should avoid eating food which causes acidity or gas.
- h. Bathing makes the body light and fresh and increases its elasticity. Asans may be done before or after taking a bath. However asans can be done in the evening also, if the stomach is empty.
- i. People who have fractured bones and those who are suffering from chronic diseases should not do all asans.
- j. All asans should not be done at the start. Asans should be done according to one's capacity and the duration of each asan should be increased gradually.
- k. The sequence of asans should be such that a particular asan is followed by counterpose.

# Warm-up Exercises

Warm up exercises should be done before doing asans. The perfection in asans can be attained when the joints have been loosened and the muscles are toned up by stretching and by the Increased circulation of blood. Warm up exercises reduce the risk of muscular pull and injury of joints during the performance of asans. Warm up exercises increase mobility in all joints so that muscles can move with ease and freedom. The following exercises must be done before doing yogasans:-

# Exercise No. 1 (Arm-rotation)

Stand erect with feet apart and the arms fully extended in line with the shoulders and palms up. Slowly turn the arms forward and backwards so that palms face first the front, then behind, then upward and

downward. The arms rotation exercises improve the flexibility of the shoulder joints.

## Exercise No. 2 (Side-Bend)

Stand with your feet apart and link your hands behind your head keep your back straight. Bend to the left making sure that your arms are at level with your ears and your body does not lean forward or backward. Return to the starting position and then repeat on your right side. Repeat this exercise 10 times.

## Exercise No. 3 (Chin-high kicking)

Stand erect with your feet together and your arms stretched out in front of you at shoulder height. Inhale slowly and rhythmically, Kick forward and upward towards your hands. First with your right foot, then with your left foot. Repeat it 10 times.

# Exercise No. 4 (Stationary Running)

Start this exercise in a standing position with your hands on your waist. Breathing freely, run on the spot on your toes. It is beneficial to go as high as possible. Repeat it from 15 to 20 times.

# Exercise No. 5 (Bicycling in the air)

Lie on your back with your arms by your side and your legs together. Keeping your back flat on the floor. Raise your right leg then your left leg and rotate them as if you are paddling a Bicycle. Repeat it 15 to 20 times. This exercise is beneficial for knees, thighs, hips and ankles.

# Exercise No. 6 (Heads rotation)

Sit in a comfortable cross-leg position with your back straight. Rotate your head slowly from right making a full round. Repeat it 15 to 20 times. This is a simple Lat highly beneficial exercise for neck and shoulders.

# **Very Important Caution**

Those suffering from Hypertension (High blood pressure) and Headache or migraine due to hypertension are advised not to do following Asans. These can prove risky and dangerous for them:-

Sarvangasan, Sumerasasn, Prahamasan, Dhanurasasn, Padahastasan, Matsyasan, Shashaksasn, Ushtrasan, Merudandasan, Chakrasan, Shirshasan, Tolengulanasan, Garbhasan, Koormasan, Paschimotsasan, Setuasan, Vrischikaasan, Kapothasan, Omkarasan, Kandhavasan, Mayurasan.

Those persons suffering from Headache and Migraine are advised to do the following asans. They will be highly beneficial for them.

#### **ASANAS**

### 1. Simhaasan

#### **Comments**

This pose appears to be odd and unpleasant but is very much rewarding and rejuvenating for throat, face and neck. In Sanskrit simha means a lion. This pose is dedicated to Narsimha, the man-lion incarnate of vishnu refers to the famous legend in Indian scriptures. The modern yogis think that this is a fine Asan for Isometric contraction exercise. This asana has two variations. The first giving below follows the second which is more strenuous but having greater beneficial effects. Since in this asana it becomes difficult to breathe in and out continuously so practitioners should practise this asana for a couple of seconds only. This is held sacred by the best of yogis.

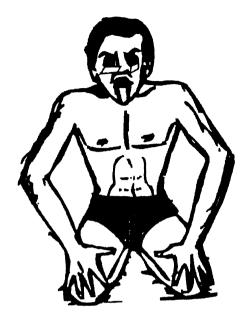


Fig. 4.1 : Simhasana

## Technique

Sit on the folded blanket with legs stretched straight in front. Raise the seat, bend the right knee and place the right foot under the left buttock. Similarly bend the left knee and place it under the right buttock. The left ankle should be kept under the right one. Sit on the heels with toes towards backwards and put the weight of the body on the thighs and knees Stretch the trunk forward and keep the back erect, place the right and left palms on the right and left knees. Stretch the arms straight and keep them rigid. Then spread the fingers and press them against the knees. Open the mouth and eyes wide and protrude the tongue out and down as far as you can. Gaze at the centre of the eye brow or at the tip of the nose. Remain in this pose for a couple of seconds. Breathe through the mouth.

## 2. Vajarasan

#### **Comments**

Vajra implies diamond. As the name suggests, this asana makes the body as graceful and strong as diamond. It is the prayer pose of the Muslims and the meditative pose of the Buddhists.

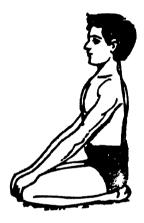


Fig. 4.2: Vajarasan

## Technique

Sit on the folded blanket with the feet stretched backward and big toes crossed. The knees should be kept together but heels apart. Lower the buttocks inside the feet. The heels should touch the sides of the hips. Place the hands on the knees, palms downward.

#### 3. Jestikaasan

#### Comments

It is more or less the same as Advasana with slight variation. It is also very simple, easy and comfortable asana and can be performed by any one irrespective of age, sex or place.



Fig. 4.3: Jestikaasana

# Technique

Spread a blanket on the floor and adopt the pose of advasana. Interlock the fingers and place the palms at the back of the head. Breathe slowly, deeply and rhythmically. Relax the whole body

#### 4. Vrikshaasan



Fig. 4.4: Vrikshaasan

#### **Comments**

This asana belongs to the inverted balancing group of asanas. It is one of the most fascinating and effective asanas. When performed correctly it looks like a tree.

## Technique

Stand up right. Fix the right leg on the ankle. Fix the right foot on the left thigh. Bring the palms of the hands together a little above the head with the arms half bent. It will assist good balance to fix the gaze on a point level with the eyes on the wall. Breathe freely and deeply. Stay in this pose at least for ten seconds.

### 5. Marjaria asan

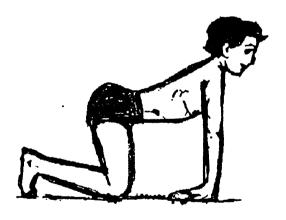


Fig. 4.5: Marjariaasan

### Comments

This asana is one of the simplest and can be performed by any one easily. This asana is also performed from vajrasana and can be extremely beneficial if the stomach is contracted during exhalation. Marjaria in Sanskrit means a cat. This asan belongs to the energy block group of asanas.

### Technique

On a folded blanket, adopt the pose of Vajrasana. Raise the buttocks and stand on the knees and at the same time place both hands flat on the floor in front of the body under the shoulders inhale and raise the head. Then exhale and lower the head and arch the spine. Again bend the spine and raise the head. The arms are to be kept straight and vertical.

#### 6. Gomukhasan



Fig. 4.6: Gomukhasan (Side)

#### **Comments**

"Gou" in Sanskrit means "Cow" and mukha "face". This asana is used for meditation, prayers and breath control. This asan when done correctly resembles the face of a cow.

# Technique

Sit on a folded blanket on the heels, knees together and head, and spine straight. Bend the right arms raise the elbow and lower the hand as far down the middle of the back without disturbing the upright posture. Bend the left arms and bring the left hand up the centre of the back until the fingers of both hands interlock breathe deeply. Remain in the pose for a couple of minutes. Come to the original position and relax.

# 7. Yog Mudra

#### Comments

In the classical dancing mudra means a symbolic gesture of the hands which evoke a particular mood or gesture of emotions. Some yogis are of the opinion that mudras are more effective than asanas and pranayama because they arouse the dormant serpent power (Kundalini) in man. There are about twenty-five mudras discussed in the "Gherand Samhita". Which can be practised only under the supervision of a qualified teacher. A mudra is a particular attitude symbolising psyche. Some of the popular mudras are Gyana mudra (Psychic gesture of consciousness), Shambhavi mudra (Eve brow entre gazing). Akashi mudra. Bhujanginimudra Kaki mudra, Ashwani mudra and Khechari mudra, all these mudras are done in sitting posture.

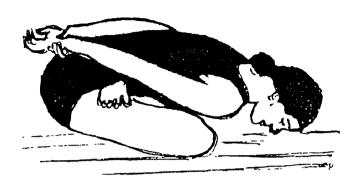


Fig. 4.7 (A): Yoga Mudra



Fig. 4.7 (B): Yoga Mudra

### Technique

Sit on folded blanket in Padamasana pose. Relax the whole body and close the eyes. Place the hand behind the back catching hold of the left wrist in the right hand and keeping the spinal column erect. Inhale and exhale slowly leaning forward touching the floor with forehead. Stay in this posture for as long as you can without any stress or strain. Focus your attention on the abdominal region. Then breathe in slowly and rhythmically. Sit upright and relax.

#### 8. Salabhasana

#### Comments

In Sanskrit slabha means locust. When the full and correct pose of this asana is displayed. It resembles a locust with its tail raised. In Bhujangasana the body below the navel touches the floor but in salabhasana the process is reversed i.e., the upper body touches the floor.

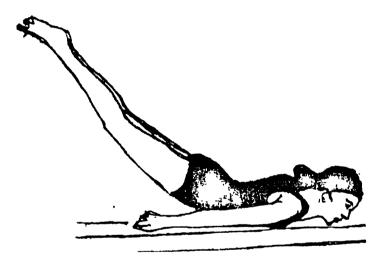


Fig. 4.8: Salabhasana

# Technique

On a folded blanket on the floor, lie prone on the stomach and chest. The forehead and the chin must touch the floor and keep arms alongside the body and legs extended together. Take a deep breath. Clench the fists tightly and raise the legs together as high as possible without bending them. Exhale breath and bring the legs slowly to the floor. Remain in this pose for a couple of seconds. Return to the original position relax.

#### 9. Naukaasan

#### **Comments**

This asana is one of the simplest asanas belonging to the energy blocking group of asanas. Energy in the prana (life force) is in every part of the body. It must have free flow. Sometimes due to certain impurities or chemical reactions, the free flow is blocked resulting in stiffness rheumatism and muscular tension. This asana when performed correctly resembles the shape of a boat. Hence named Naukasana. It has number of variations.

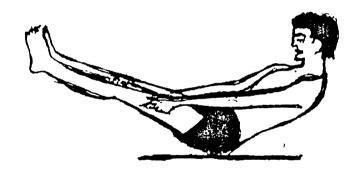


Fig. 4.9: Naukasana

# Technique

Lie flat on the floor facing the sky with hands clasped at the back. Raise your feet, head on the chest up as to form a curve on the floor. With your body rest on abdomen in this pose the body looks like a boat. Breathe slowly and rhythmically. Remain in this pose for couple of minutes, and rock the body from one side to another like a boat.

#### 10. Trikun Asan

#### **Comments**

Trikonasana and all its variations belongs to the category of standing and bending asanas. This asan is called "Trikona" because the asana when performed correctly, gives the idea of three angles.

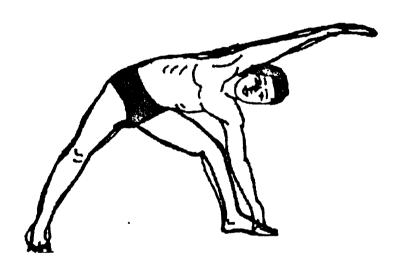


Fig. 4.10: Tikunasan

# Technique

On a folded blanket stand erect with legs apart and inhale. Raise the arms horizontally in a straight line with the shoulders. Start bending slowly to your right until your right hand touches your right foot. The arms should form a vertical line with the face turned upwards. After a couple of seconds inhale and perform the same movement of the left side and exhale slowly while lowering the arms.

#### 11. Parvat Asan



Fig. 4.11: Parvatasana

### Technique

Sit on a folded blanket, adopt the pose of siddhasana and gaze on a white spot on the floor. Stretch your hands upwards, and keep the neck, spine in straight line. While raising your hands upward breathe in and retain breath for a couple of seconds and while bringing hands down breathe out. Do this asan at least ten times.

#### 12. Padamasana

#### Comments

"Padamasana" is a unique pose for meditation, worship and prayer. It is held in high esteem by the yogis. It was the pose adopted by great maharishi Lord Buddha and other great saints and sages like sandilya, Gheranda, Matsyendra, Bhirava and Swastmaram. It is called Padmasana after the famous flower (Lotus). This asana needs sufficient suppleness. Women and children

can make a better attempt in doing this asana than men. Those suffering from stiffness of legs and knees and ankles will feel uncomfortable in this posture but regular practice will make them perfect.



Fig. 4.12: Padmasana

# Technique

Sit on the folded blanket with your legs outstretched. Bend each leg and place each foot on the opposite thigh, soles upwards. Pull the foot as high as you can. Keep the palms of the right and left hand on the right and left knees, touching the thumb with tips of index fingers and gaze at the tip of the nose. Keep the head, neck and spinal column straight and erect and breathe slowly.

### 13. Baddha Padmasan

#### Comments

Like Padmasan, it is also recognised as the classic yoga pose. It is one of the basic but highly beneficial asanas and is in continuation with Padmasan.



Fig 4 13: Baddha Padmasana

# Technique

On a folded blanket, adopt the pose of Padmasana. Cross the arms behind the back and grip of the right foot with right hand and the toes of the left foot with left hand. The chest should move forward. Breakhe slowly and freely. Remain in this pose for a couple of minutes. Come to the original position and relax.

#### 14. Shavasan

#### Comments

Last but not the least comes very important, popular and highly powerful asana known as shavasana. In the classic texts "Hatha Yoga Pradibka". This pose is called shavasan and it is named as mritasana. Both "Shava" and "Mrita" means corpse or dead body. As the name suggests, the practitioner lies on his back on the floor or on the soft carpet or on a folded rug with eyes closed like a dead man. This asana is also called total relaxation pose by some western yogis. This asana is very simple

but difficult to practise. Our body is like a factory with many machines inside. Just as machines need rest, cleaning and repair, similarly the machines of our body need cooling, rest and repair. The wastes, toxins are to be repaired and swept away from our body organism. In this age of hurry, stress and strain modern man needs rest and relaxation more if his body machine is to work properly and to get rid of dangerous toxins. Generally people misuse the hours of leisure rest and relaxation. Some feel relaxed under the influence of liquor or other intoxicants. These modes of relaxations give temporary relief or kick but they can be harmful physically and mentally in the long run.



Fig. 4.14: Shavasana

# Technique

On a soft carpet or blanket lie full length on back with arms away from the body with palms facing upward and feet slightly apart. Close the eyes and mouth and withdraw the consciousness by stages beginning with the feet, the ankles, the knees, the abdomen, the chest, the neck, and the face. Finally keep the mind free. Start breathing deeply slowly and rhythmically. The practitioner at the final stage of this asana should feel that his body is motionless like a dead body sinking in the ground. In this asana all tissues, nerves and muscles are to be relaxed with the mind. Simply lying on the floor, closing the eyes and breathing slowly does not mean shavasan. Rhythmically and deep breathing are

absolutely necessary for concentration which gives complete relaxation.

# **Yogic Cleansing**

(Dhouti, Neti Nouli)

Yoga lays stress on Internal and External purification "Dhauti" implies washing. In yoga Dhouti Kriya conveys a specific sense of washing, such as of the nose, stomach, intestines and abdomen with water or with air to make those free of accumulated wastes or bacteria etc, and to keep the body in perfect health. These Dhoutis and washes are great aids in curing chronic sufferings and these washes have a sure preventive value against all sorts of infections.

Before doing Pranayama Exercises it is beneficial to clean nose, throat stomach and intestines. Dhouti, Neti and Nouli are effective means for the purification of the body and for developing in the body those virtues and capacities which are necessary for the successful practice of Pranayama. Even a person who has no higher yogic aspirations can get rid of many diseases by undergoing these courses of discipline systematically under expert guidance.

# 1. Neti-Kriya (Nasal wash)



Fig. 4.15: Paranasal Sinuses

Neti kriya is performed through the nose and it is done to wash out the nose upto its root and some portion of the forehead, making that region free of germs.



Fig. 4.16 (A): Neti Kriya



Fig. 4.16 (B): Neti Kriya

# Technique

Make a saline solution by mixing approximately 1/4 teaspoon of ground non Iodized salt in a Neti pot with one cup of warm water. Stir until the salt completely dissolves. It should taste like warm tears. Lean over a sink and rotate your head to one side until one nostril is directly above the other. Gently insert the spout in the upper nostril with twisting motion so it forms a seal. Raise the handle of the pot, allowing the saline to flow into the upper and out the lower nostril. If it drains out of your mouth, lower your head. When the Neti pot is empty, exhale vigorously into the sink. Refill the pot and repeat the technique on the other side. To clear the nostril of excess saline, make 15-20 brief moderately forceful exhalations into the sink with the nostrils open and the face and nose relaxed.

- 2. Nostril to mouth wash:- This type of wash cleanse the nose and throat and mouth. According to this technique, take water through nose and throw the water out through your mouth. You feel as if you are drinking water through your nose. Take the saline water inside the throat and then pour it out through your mouth. Repeat it at least ten times and relax.
- 3. Mouth to Nostril wash:- In this type of wash you don't need Neti pot. You can do it anywhere. This is most useful method of loosening and expelling conjection of the nose and throat. Mix one teaspoon of salt with lukewarm water and begin by gargling keep the water in your mouth for a couple of seconds and then throw the water out from your mouth. Repeat it 15 times. This will be effective technique for loosening and expelling conjection when you have cold. The Nasal wash is one of yoga techniques used to eliminate excess mucus. Toxins and impurities from our body.

4. Nouli :-Nouli is another exercise which can give extra strength to the tubular structures of the whole pelvic and abdominal regions i.e., the entire nerves, muscles and the arteries and this is why it is called "Nouli" (Tube).

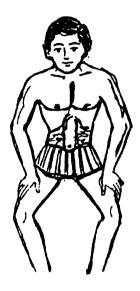


Fig. 4.17: Nauli

### Technique

Stand at ease keeping the feet 12 to 18 inches apart and the upper body slightly inclined and pull in the belly upto the backbone, expert pressure on the thighs, in such a way that the muscles of the pelvic region are moved as also their offshoots in the abdomen simultaneously, now push out the entire muscular structure. Steady practice will give this form a perfection. Maintain this position as long as you easily can. Then release the pressure of the hands on the thighs, relax the abdomen muscles. Inhale air and relax the muscles and straighten the body.

# 5. Uddiyana Bandha



Fig. 4.18 (A): Uddivana Bandha

This type of Bandha is performed on the left side. Stand in the same posture and stay at the Nouli of the middle, relax the pressure of the right hand slightly but keeping that of the left as usual. Now slightly incline the trunk to the left and move the abdomen mussels of the right side and this when perfected give rise to another rod-shaped muscles to the left side. Repeat it 5 times and relax.

6. Uddiyana Bandha: Standing in the same posture. When the left sided figure is performed at ease, try this right sided one in reverse order i.e., relax the pressure of the left hand keeping that of the right intact, bend the body slightly to right and try to raise the right side. Which will finally form rod of muscles just along the right side of the stomach.

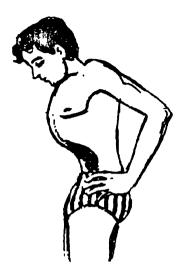


Fig. 4.18 (B): Uddiyana Bandha

Great are the benefits of Noulis. Noulis help equate the three basic physiological elements of wind, Bile and mucus. Noulis also give a beneficial exercise of the muscles, nerves and arteries in and around the whole abdomen together with the large and small intestines. The liver and spleen are made stronger. The prime of life is the best period for its practice. While the under aged children are strictly forbidden to do this. Women should not do Nouli or dynamic Asans during pregnancy and during the period of menstruation. Moreover people having heart disease, blood pressure, ulcer of the stomach, T.B. should not do any nouli. Even old men in sound health should not do any type of Nouli.

7. Nasa-Pan Kriya (To drink water by Nose):- Fill up a bowl (Medium size) with water and dip your mouth and nose into it. Hold up breath and try to slowly inhale some water through the nose. Primary experience may be of some burning at the root of the nose and some sneezing. After this initial difficulty is over, you will be able to

drink water through the nose as easily as it is done through the mouth. The water inhaled be gulped out through the mouth. This method should be repeated every week.

This kriya has also many benefits, Ida, Pingla, and Shushuma... the trio of our respiratory channels have met together at the root of the nose behind the forehead. Hence any catarrh accumulated causes disturbance to the respiratory system. This kriva keeps the head cool even when attached with sever headache or fever. The bacteria of cold and cough, influenza get an opportunity to germinate and spread inside the body when catarrh accumulates at the root of the nose and thus obstructs natural respiration. So this kriva keeps the head free from Headache and fever, The Bastrikriya is very effective kriva of evacuation of stools. The decomposition of accumulated stools in the Intestine poison the body system and help breeding of various germs inside the body, Bastrikriya of yogic system cleanse not only the Intestines but also the stomach. Mix up 2 ounces of lemon juice and half ounce of common slat with about 2 pints of water and drink it up and lie on the back then perform Salabasan three times or Bhujangasan. A strong motion is expected within a couple of minutes.

# Pranayama

Pranayama has most important place in voga. It essentially consists in the conquest of the whole biological system in man, the concentration of the vital power and the upward movement of the unwasted and concentrated vital energy in the direction of the union with the supreme spirit. The well planned and wellpursued regulation and control of breath is the key to yoga. The respiratory system is related to all the inner organs of the body. Every complete breathing process consists of three functions i.e., in-breathing (Puruka), out breathing (Recka) and in between these two a state of suspension of breath (Kumbhka). In normal breathing of a healthy person the whole process takes about 5 seconds and the state of suspension is hardly perceptible. The process is repeated continuously in the states of waking and sleep and in 24 hours it is repeated 21600 times. One of the important things the ancient vogis discovered was the close relationship between the emotions and breathing. When we are excited, our rate of respiration becomes faster. When we are relaxed, our breathing is calm and slow. By control of the breath, the mind can be stilled and made one-pointed.

According to Gheranda Rishi, four things are necessary before one can practice Pranayama, right place, right time, right diet and purification of nerves (nadi-suddhi). The word nadi stands for both physical as well as psychic channels insides the body. Pranayama can be a means of greater bodily vitality and can exert a beneficial influence on the emotions and the mind. Pranas related to mind and through mind to will and through will to the Individual soul and though soul to the supreme being. If one knows how to control the little waves of prana working through the mind, then the secret of universal prana will become easy for him.

The word prana is often confused with breathing. When prana is present, breathing takes place. The word prana means energy which is the basis of all life. Breath goes directly to the blood, inside the nadis, inside the bones. The meaning of prana goes much deeper than the breath. In one of the ancient scriptures is mentioned, one upon a time the organs of the body debated as which among them was the greatest, "Sir which is the best of us"? They asked the Lord. The one which leaves the body worst off when it goes away. The different sense organs went away one by one, only to find those remaining had managed without them. For example without speech others were dumb, but yet they carried on. Finally the breath of life prepared to go away. As a great house might pull up the pegs that tether it to the ground so that breath of life (Prana) prepared to pull away all the other organs. But they unitedly said, "Sir, do not go away for we cannot live without you, you are the best of us".

# Respiration and Breathing

The terms "Respiration" and "Breathing" are often confused and sometimes used as synonyms, but there is fundamental difference between the two. Breathing is the mechanical act of inhaling air into and exhaling it from the body. A baby starts breathing immediately after its birth, the moment placenta is cut off from its body. Respiration however, takes place in the embryonic

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stage long before birth. Respiration, life's and energy giving process goes on non-stop from the womb to the tomb. Prana is much more than mere breath, prana is the power behind and within breath. The prana performs a number of functions in the human body. Each of these has a specific name and aim:-

- 1. Prana:-It circulates in the area around the heart and controls breathing.
- 2. Apana:- It circulates in the lower region of the abdomen and controls excretory functions (urine and faeces).
- 3. Udana:- It remain in the thoractic cage and controls the absorption of air and food.
- 4. Vyana:- It spreads throughout the body and distributes the energy from food and breath.
- 5. Naga:- It relieves abdominal pressure by provoking excretion.
- 6. Kurna:- It controls the eyelids to prevent foreign bodies from dazzling light from harming the eyes.
- 7. Krkara:- It prevents certain substances from rising into the nasal cavities or descending into the throat causing sneezing and coughing.
- 8. Dev dutta:- It ensures the absorption of extra oxygen into a tired body and causes yawning.
- 9. Dhanajaya:- It remains in the body even after death and sometimes cause the corpse to swell.

Person suffering from Headache and Migraine are required to do following pranayama exercises. The exercises will " ove very beneficial in the prevention and cure of Headache and Migraine:-

### Ujjayi Pranayama

#### Comments

Ujjayi pranayama creates heat in the body. So it is more beneficial in cold season. It is very beneficial to persons who are very sensitive to cough, cold, influenza and bronchitis. It is also highly beneficial for the disease of throat nose and ears. It also reduces blood pressure. It removes phlegm and increases gastric fire. It keeps the muscles of the throat healthy and the voice. Ujjayi induces relaxation very quickly.

### Technique

Sit in Padmasana or Siddhasana. Close the eyes and the mouth. Inhale through both the nostrils in a slow, smooth and rhythmic manner till the breath fills the space from the throat to the heart. Retain the breath as long as you can without any strain or stress, and exhale through the left nostril by closing the right nostril with your thumb. Expand the chest when you inhale. During inhalation a peculiar sound is produced owing to the partial closing of glottis. This kumbhaka may be practised even when walking or standing. Instead of exhaling through the left nostril. You can exhale slowly through both the nostrils.

# Bhastrika Pranayama

#### Comments

Bhastrika is also a powerful pranayama exercise and should be practised under the supervision of a teacher. In this exercise, lungs get maximum exercise. The entire respiratory system is invigorated vitalised and purified. This exercise should not be practised by those who are suffering from some heart or lung ailments. A regular and correct practice of this exercise will be beneficial in the treatment of asthma and pleurisy. With

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Bhastrika pranayama, heat is produced in the body and great amount of carbon dioxide is expelled.

### Technique

First stage: Chandrika Bhastrika. Sit in Siddhasana or Padmasana. Close the mouth and the eyes. Close the right nostril with the right thumb and inhale and exhale through the left nostril. Known as Ida or chandra nadi or the moon nerves, with great emphasis. Do it 10 to 15 times. At the end breathe in and retain the breath inside for 20 seconds. Then exhale very slowly.

Second stage: Suryang Bhastrika. The same process should be done now through the right nostril, keeping the left nostril closed with the ring finger and followed by inside retention of breath for 15 seconds.

Final stage: Repeat the same process as above but use both the nostrils. Then retain the breath as long as one feels comfortable. It should be done about 10 to 15 rounds.

# Kapal Bhati

#### Comments

In Sanskrit "Kapal" means the head or the skull and "Bhati" means bellowing. Although kapalbhati is not a Pranayama in the technical sense of the word, it is surely a breathing exercise and is included in the pranayama exercises. Kapalbhati stimulates the brain. This pranayama should not be practised by those who are suffering from serious mental ailments.

### Technique

Sit in some comfortable Asana, and inhale through both the nostrils and force your breath-out in quick succession till the lungs are empty. During forceful exhalation, draw the abdomen and the chest in with force so that the air may be discarded in greater quantity. Begin slowly but increase the speed gradually. Do it about 15 times. Then breathe in slowly and relax. This should be done for 3 rounds.

### Sheetali Pranayama

#### **Comments**

The word "Sheetali" implies cooling. By doing this pranayama exercise cooling effect is experienced throughout the body. Sheetali is a good blood purifier and it remove facial skin eruptions. It controls high blood pressure and is practised to remove thirst. It also cures disease of the throat and destroys Gulma consumption, and cures Migraine.

### Technique

Sit in any comfortable Asana and protrude the tongue out of the mouth and curl it up like a tube. Inhale slowly through the mouth and through the tube of the tongue. Retain breath for a short while. Exhale through both nostrils. Practise this from 20 to 30 times daily during summer.

# Sheetkari Pranayama

#### **Comments**

Sheetkari has the same benefits as sheetali Pranayama. This Pranayama exercise enhances the beauty of practitioner and increases the vigour and vitality. It removes hunger sleep and indolence.

### Technique

Sit in Padmasana or Siddhasana and fix your jaws and the teeth firmly clenching over each other. Open the lips but do not open the mouth. Inhale quickly by Pranayama 757

sucking air into the mouth through teeth in a hissing manner. The teeth and tongue should not move and their position should not be altered at any time. After complete inhalation exhale through the nose. Do not retain the breath any time during this exercise. Repeat this exercise 15 to 20 times.

### Bhramari Pranayama

#### **Comments**

In Sanskrit "Bhramari" means humming of the bees. In this exercise humming sound is produced. This Pranayama is highly beneficial for nerves. It induces relaxation and gives relief in high blood pressure caused by stress or strain. It is extremely beneficial for singers, Orators and speakers because it soothes the nerves and tissues of the throat and makes the voice sweet.

# Technique

Sit in Padamasana or Siddhasana and inhale deeply through the nostrils. Plug the ears with the forefingers. Exhale through the nostrils producing a humming sound. Practice this for 15 times. In this Pranayama exhalation should be of longer duration with unbroken humming sound.

# Meditation

Concentration and Meditation are the two most important pivots of the system of yoga. They are the central points round which all sadhana in the spiritual field revolves. Concentration and meditation are the essential essence of voga. If concentration is the drop, mediation is the rive. Many concentrations make a river. Different schools prescribe different methods of concentrations. The way in which one concentrates one's mind determines what kind of person one is what psychic impressions are within one self. Worry is to man what canker is to rose. Worry and grief constitute obstacles in the practice of yoga, unfortunately, life is always beset with sorrow. Yoga cannot be successful, if the person is under any mental stress. Hence the first step in voga is not pratyhara or Dharna, but a psychological disentanglement of the inner world. One cannot concentrate if one is worried. Psychological contentment brought about by self-analysis is a great help in concentration. The three methods which the mind employs usually are repression, substitution and sublimation. Sublimation is the best method to social taboos but later on this creates many complexes. The moods of people are nothing but the occasional eruption of repressed emotions and attitudes. The point of concentration may be external, internal or universal. The outer thinking may be regarded as the beginning.

the inner thought as the middle state and the universal thought as the last stage. One begins with the outer, goes to the inner and reaches the universal.

The absorption of the mind in the object of its concentration is the pinnacle of voga. Concentration is defined as the tethering of the mind to a point of attention whether external or internal or universal. Meditation is described as a flow which continues as a movement from the meditating subject to the object of meditation. Meditation is that state of the mind where in there are no vishavas or sensual thoughts. Meditation is the keeping up of an unceasing flow of Godconsciousness. It is the flow of one continuous thought of one God like the continuous flow of oil. All wordly thoughts are shut out from the mind. The mind is filled with divine thought, Divine glory and Divine presence. Meditation literally means "completely in agreement". It is a super consciousness, cosmic consciousnessor super cosmic consciousness. It is a stage when the meditator, mediation and the meditated become one. It is a state of Bliss and oneness with Immense Being. Patanjali has mentioned samprajnata and Asampragnata samadhis. In samprajnata samadhi mind is retained in its purity and refinement. In Asamprajnata samadhi thoughts disappear in the first stage. Perfect thinking remains. Thinking also vanishes in the second stage and the stage of complete vacuum, super consciousness remains. The upper two states relate to conscious state. Patanjali also mentions about unconscious sabija samadhi in which unconscious is there but mind dropped consciously. The higher stage is Nirbija where seed is also finished from the unconscious and there is no possibility of its coming back as there is no seed which can sprout and flower. Swami Vivekananda in his "Rai Yoga" has classified samprajnata samadhi in four varieties:-

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a. Savitarka: With question (i.e. sound, meaning and resulting knowledge being mixed up) concentration of external gross elements. The state of assuming Identification with gross material objects like a crystal which takes up the colour of surrounding objects.

- b. Nirvitarka:- Without question (i.e. devoid of qualities, expressing only the meaning). Taking the objects out of time and space and thinking of them as they are. Knowledge of name and meaning also fade away and only the form, without name and meaning remains.
- **c. Savichara**:- With discrimination take Tanmatras as object and think of them in time and space.
- d. Nirvichara:- Without discrimination eliminates time and space and thinks of the five elements, only the abstract without its name and meaning subsists.

Samanda samadhi is where consciousness of Ananda continues. Sasmita samadhi is where only the sense of abstract consciousness prevails. Nirvikalpa samadhi is extreme limit of concentration. The state of samadhi cannot be described in words as it is beyond words and thought.

Dharna is the sixth step in the ladder of Hatha yoga. Dharna or concentration implies focussing of the mind on an external or internal object. Interest attention and concentration are three basic things in meditation. One must first have interest in a thing or object then only one's whole attention will be maintained. There can be concentration without Interest and attention. Attention implies steady application of the mind. Through attention one can develop one's mental faculties. Through attention one gets a clear and distinct comprehension of objects. During attention all the scattered rays of the mind are collected. Attention

cannot be separated from perception. We perceive a things then we remain alert or attentive. Attention is of two kinds voluntary and involuntary. Involuntary attention is common. This type of attention does not demand any effort, will or determination.

Hindu scriptures are full of tales showing the importance and power of concentration. Once Dronacharya wanted to test the power of concentration of the Pandavas. A basin of water was placed on the ground. A bird was being rotated above. The archer was required to shoot at the bird by looking at the reflection in the water.

Drona: O Yudhishtra what do you see?

Yudhishtra: O Acharya, I see the bird to be aimed at, the tree on which the bird is sitting and I see yourself also.

Drona: What do you see Bhima?

Bhima: I see the bird, the tree, yourself, Nakula, Sahadeva.

Drona: What do you see Nakula?

Nakula: I see the bird, the tree, yourself, Arjuna, Bhima, the garden etc.

Drona: What do you see Sahadeva?

Sahadeva: I see the bird to be aimed at, yourself, Arjuna, Bhima, Yudhishtra, the horse etc.

Drona: Now then Arjuna, What do you see?

Arjuna: O revered Guru! I see nothing but the bird to be aimed at.

So far the complete success in concentration one must have one pointed concentration of Arjuna.

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Then there is a popular story of the Arrow-maker. An arrow maker was very busy in making the arrows. He was wholly absorbed in his work. He had intense concentration. Once a king and his party passed in front of his workshop. As his mind was wholly absorbed in his work, he did not notice at all the king and his party. One must be endowed with the same power of concentration in meditation. In voga concentration and Pranayama are CO-related. Pranayama can bestow concentration. Mind is compared to quicksilver because its rays are scattered to various objects. To the monkey because it is chanchal (wavering). It is compared to a fur.ous elephant because of its passionate sensuous desires. According to yoga, mind manifests in five different forms called yogi Bhumikas. Those forms are Kshipta, Mudha, Vikshpta, Ekagara and Nirudha. In the kshipta state, the mind is wavering and restless on various objects. In the muddha state, mind is dull, dross and forgetful. In vikshipta state, rays of the mind are stable,, poised and one-pointed and in Nirudha state, the mind is fully under control. Through rapt attention and constant concentration the mind can be checked and drawn towards one object or idea. When the mind is happy, the external things may also appear delightful. When the mind is gloomy or sad, the most beautiful scene in nature cannot give us delight. Coleridge, the romantic poet has rightly said:

O Lady! we receive but what we give in our life alone doth nature live.

We are troubled and bothered by our own mind, concentration and meditation can remove rajas and Tamas from our mind. So Interest attention and concentration are of utmost importance in meditation. Meditation is a great medicine. Meditation can help to self control and impart clear sighted ness and vision to its practitioner. Meditation is a powerful tonic. It is

mental and nerve tonic as well. The holy vibrations penetrate all the cells the body and cure the diseases of the body. The powerful soothing waves that arise during meditation can have soothing and positive effects on the mind, nerves, organs and cells of the body. Regular and complete meditation can give the practitioner sweet voice, powerful speech, lustrous eyes, brilliant complexion, healthy body and good behavior. Meditation opens the door of the mind to intuitive knowledge.

One can get complete Bliss when one dives deep and merges deep with Absolute in meditation. Real peace and bliss manifest only when the vasansa (sensual desires) are out and sankalpas disappear from the mind. Meditation gives lot of strength, peace, inner happiness, vigour and vitality. According to Swami Shivananda. :For purpose of meditation everything is to be rendered sattvic. The place of meditation must be sattvic, Thinking must be sattvic, study must be sattvic, Talking must be sattvic."

# The Yogic Diet

Diet is of paramount importance in the development and promotion of health and prevention of disease. Of course, food is the material which can develop and maintain the body. Good nutrition is the fundamental requisite of good health. The words food and nutrition are often confused. Food is composite mixture of various substances, the quantity of which varies from a fraction of a gram in certain cases to hundred of grams in others. Over-nutrition, under nutrition are the causes of most human ailments and diseases. In recent years much has been said and written on the functions of trace elements and dietary fibre in human health and disease. As a result of it new concepts like nutritional surveillance and nutritional rehabilitation have been evolved. Despite these advances malnutrition and under nutrition are still prevalent in under developed and developing countries. The dietary constituents of food can be classified into proteins, Fats, carbohydrates, vitamins, minerals and water. The degree of these constituents varies from one food to another. The human body is made up of these constituents and has the following approximate compositions:-

### Composition of Human body

<u>Matter</u>	Percent
Water	63
Protein	17
Fat	12
Minerals	7
Carbohydrates	1

A diet which contain nutritutive principles and helps one to keep the mind calm to give energy and to curb the restless Indriyas is yogic diet. A diet which is conducive to physical and mental health. Diet has close connection with mind. Sage uddalaka rightly advised his son svetaketu, "Food when consumed becomes three fold, the gross particles become excreta, the middling ones the flesh and the fine ones the mind".

In the Gita, Lord Krishna says that the foods that augment vitality, energy, vigour, health and cheerfulness are liked by sattvika. "The foods that are bitter, sour, overhot, pungent burning are liked by Rajasika and are productive of pain grief and disease. The food which is stale, tasteless, stinking, impure is the food liked by Tamasika".

A yogic diet is one in which the different principles of diet which keep the body and mind in harmony exist in proper proportion. If a diet contains too much of one thing and too little of another thing, it is faulty in one way or the other. It will be ill-balanced diet which can lead to malnutrition, stunned growth and physical deficiency, Yogic diet is sattvic diet and lays stress on fresh, simple, wholesome and nutritious diet. It includes among other things fruits milk, butter, cheese, wheat, salad, soya beans, honey, green and yellow vegetables

and vitamins. In yogic diet fresh green vegetables, fruits, curds salad and vitamins are consumed generously. Fruits and vegetables are the main source of Asorbic acid (vitamin C).

### Dietary sources of vitamin C

<u>Fruits</u>	Mg. per 100g.
Amla	600
Guava	300
Lime	63
Orange	30
Tomato	27
	Germinated pulses
Bengal Gram	15
Green Gram	16
Vegetables	
Cabbage	124
Amaranth	99 ,
Spinach	28
Cauliflower	56
Potatoes	17
Brinjal	12
Radish	15
Onion	11

Honey is a most nutritious and natural food. It strengthens a weak heart, a weak brain, and a weak stomach. Honey contains all the minerals found in the human body. It contains the sugars levulose and dextrose, formic and Iron and various accessory

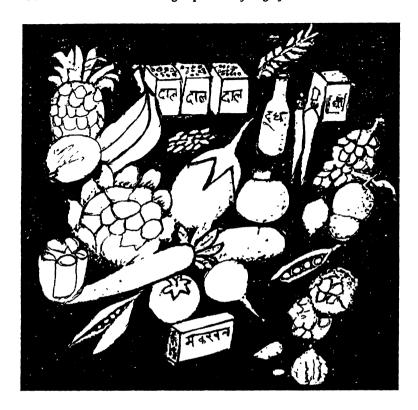


Fig. 7.1: The Yogic Diet

components. It also contains enzymes. These enzymes break-up complex foods into substances that can be easily digested and absorbed. Moreover, honey is also useful in cases of malnutrition. It invigorates, energises and vitalises the system.

Milk is a perfect diet. It contains all the nutritive principles in a well-balanced proportion. Milk contains proteins fat, sugar, and mineral salts.

Our body needs only small amounts of vitamins and minerals, but because what the body manufactures is often not enough, these must be obtained from our diet The Yogic Diet 769

and from supplements. For persons suffering from Headaches migraine, vitamins B. (Thiamine) is of great importance. This vitamin calms the nerves. Vitamin B. or thiamine is one of the most important members of the B group of vitamins. Vitamin B promotes growth, protects the heart muscles and stimulates the brain action. It plays an important role in the normal functioning of the entire nervous system. It aids digestion, especially of carbohydrates. It has a mild diuretic effect. It also reduces fatigue, increases stamina. Whole grain, cereals especially wheat, rice and oats are the best sources of vitamin B. Other good sources of this vitamin are vegetables and beet greens, fruits such as capsicum, turnip, pineapples, nuts, groundnuts, and mustard seed. A lack of sufficient vitamin B in the diet can cause loss of appetite, poor digestion, chronic constipation, loss of weight, mental depression nervous exhaustion, insomnia, headache and migraine. Vitamin B is very important for the metabolism of carbohydrate and the cells of the nervous system are entirely dependent on carbohydrates for their energy requirement. The primary role of vitamin B is to ensure energy for nerve cells and to protect them from harm.

There are many misconceptions about the importance of food as a cause of headache and migraine. Although a wide variety of non food triggers are known but many sufferers are allergic to food and water intake. The term allergy leads to a lot of controversy. The medical profession uses the term in its strictest sense. Unfortunately allergies are not easy to identify. Allergies are more common than headaches. Food allergies pose very serious health-related problems. The majority of the people are not aware of these and their ill-effects. Terms like food allergy hypersensitivity and intolerance are used to depict various reactions of food, their intensity and adverse symptoms like the appearance of rashes or

vomiting immediately after taking a particular food item. Food intolerance on the other hand is a result of the deficiency of a particular enzyme or any other factor in the body. If deficient in lactase (an enzyme) cannot digest lactose. Allergy to milk comes out in the form of vomiting, diarrhoea. The intensity and symptoms vary from person to person. Full attention at the earliest is needed in the signs of any allergic symptom.

Drinking coffee and tea has become a part of our culture and daily life. Caffeine has its effect on the nervous system. It stimulates the adrenal glands to raise the level of stress hormones adrenaline non adrenaline and cortisol. These are released when we are under stress of tension, angry or anxious. Caffeine not only increases the body stress levels but also blocks the action of adenosine, one of body's de-stressing chemicals caffeine victims often complain of headaches as an after effect and generally show Irritability, anxiety and depression.

Narcotic drugs, smoking and alcohol have no place in yoga. A smoker gets more nicotine and tar if he smokes a cigarette. A significant amount of carbon monoxide is also produced which is quickly picked up by the oxygen carrying hemoglobin of the blood and reduces its oxygen-carrying ability. By smoking the lining membranes of the air passages of smokers are thickened and obstructs them with secretion. Smoke also affects the membrane lining, the larynx or voice box. Smoking also affects the heart and blood vessels. Nicotine if taken in tobacco smoke stimulates that part of the nervous system that controls the heart, blood vessels and other Internal organs that function automatically. Smoking is also related to Burger's disease, a constriction of the small arteries in the hands and feet that can lead to gangrene.

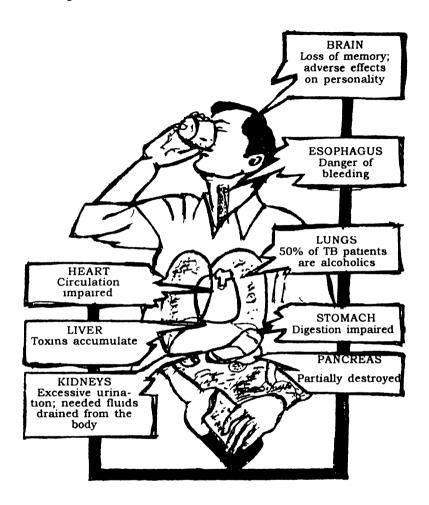


Fig. 7.2: Effects of Alcohol

One of the first parts of the body to show the depressing effects of alcohol is the front portion of the brain. Because inhibitions and caution have been cast up the winds, the impulse to continue drinking becomes stronger. Finally as the alcohol level in the blood goes

still higher, vital centres in other parts of the brain are affected. It is believed that some individuals apparently develop a certain amount of tolerance to alcohol if they are habitual drinkers. This means that they must drink more liquor. Thus a vicious circle starts, and there probably occurs a change in the basal metabolism of the brain cells so that they become dependent on alcohol. Because alcohol is a strong chemical. It may damage other delicate body tissues.

The yogic diet is fresh, simple and sattvic diet. It is nonalcoholic, non-stimulating health building and energy producing food. The famous saying of Hippocrates, "Thy food shall be thy remedy", is true for all ages and for all men and women. Why our forefathers were more stout, sturdy and healthy than we are? They ate wholesome foods like milk, ghee, butter, fresh vegetables and fruits. They could not think of the fast foods, stuff selling "junk foods" cellophane wrapped sandwiches, hot dogs, hamburgers, ice candies, colas, cakes, and chocolates. Nor would they dream of polished rice, frozen meats, food addictive and poisonous pesticides. They would avoid taking articles that are putrid, stale, decomposed and twice cooked. During their time there were no schools of nutrition, beautician and dieticians.

# **Rest and Relaxation**

We are living in an age of stress and strain, struggle and strife. This is the best of ages and this is the worst of ages. This is the hope of spring and this is the winter of despair. Science has greatly affected out life and thoughts. It has bestowed upon us powers which might be likened to those of gods. It has changed the world beyond our imagination. Now we move, live and think of science. Modern man is tense, nervous and anxious and unable to cope with the demands of modern life. Millions of civilised beings feel depressed, disillusioned disgusted and dismayed because they are neither able to keep pace with the astonishing march of science nor can they escape from it. Modern man takes the help of tranquillizers, popping pills, drugs, yellow sugar, charas, ganjas, to get temporary solace and happiness. But the remedy is worse than the disease. Today, man forgets that he is not a machine but a living being. Rest and Relaxation are required for any individual. Rest and relaxation do not imply that we should become opium eaters, a lazy and lethargic persons. Such a life would not be worth living. But we should not over shoot our physical and emotional capacity we should keep our selves cool and work and exert with our capacity and have adequate periods of rest. If our work involves much physical effort, rest is necessary.

Relaxation occupies an important place in yoga. But the concept of relaxation is often misused. To go to club

and indulge in gossips, gambling, drinking is not relaxation, to sleep and snore is not relaxation, to sit idle smoke cigars is also not relaxation. Relaxation is essential to true yoga and without it peace, happiness and health can remain only dreams. Cicero, the great philosopher said,: Relaxation is the source of creative thought. Only one who can relax is able to create". Man needs peace of mind in order to ascend to super consciousness. Until the body and the mind are tension free, this state of consciousness cannot be achieved. We can only see the bottom when the surface water is calm. Restful state is better than sleep itself. In yoga, art of relaxation can be acquired. Before coming to the technique of relaxation it would not be out of place to mention a word about anatomy. There are two types of muscles--- the voluntary one attached to the skeleton which allow us actions and movements at will. These are called the striated muscles. Secondly there are the plain or unstriped muscles which surround the ducts of the body. They form the greater part of the hollow organs. These powerful muscles contract and relax slowly in automatic movements and are free from voluntary control. In relaxation it is voluntary muscle which is more significant and the nerve is essentially different than muscle. If the muscle can be compared with electro-magnet, the nerve can be electric wire which connects it with brain. In response to a stimulus or message from the brain, a current passes through the conductor wire activating the electro-magnet which takes up its work. The muscle contracts, the arm bends, the fist clenches. It is only during sleep that man's senses with draw from the outside world and the electro magnet is almost out of action and the muscles become soft and limb. It is only through conscious or voluntary action to disconnect totally those wires which lead to the various electro-magnets, reducing the consumption of nervous

impulses to the minimum. This is yogic relaxation. That repose or rest which in a few minutes relieves fatigue more effectively than hours of sleep. Then most important Asan which leads to complete relaxation and harmony is the Shavasan (The corpse Pose). In India, some vogis use many other asans for attaining relaxation. But in order to attain yogic relaxation one must keep oneself away from sensory stimuli and relax in a room which is clean, calm and quiet. While doing Shavasan mind should be kept free from anxieties, worries and evil thoughts. The correct technique of Shavasan has been discussed in the asans section of this book. This asan is an excellent asan for physical and mental relaxation. Our body can be compared with a factory with number of machines inside. Just as machines need rest, cleaning, repairing similarly the machines of our body need rest, cooling and repair. In this age of "fret and fever" modern man needs rest and relaxation more if his body machine is to function properly.